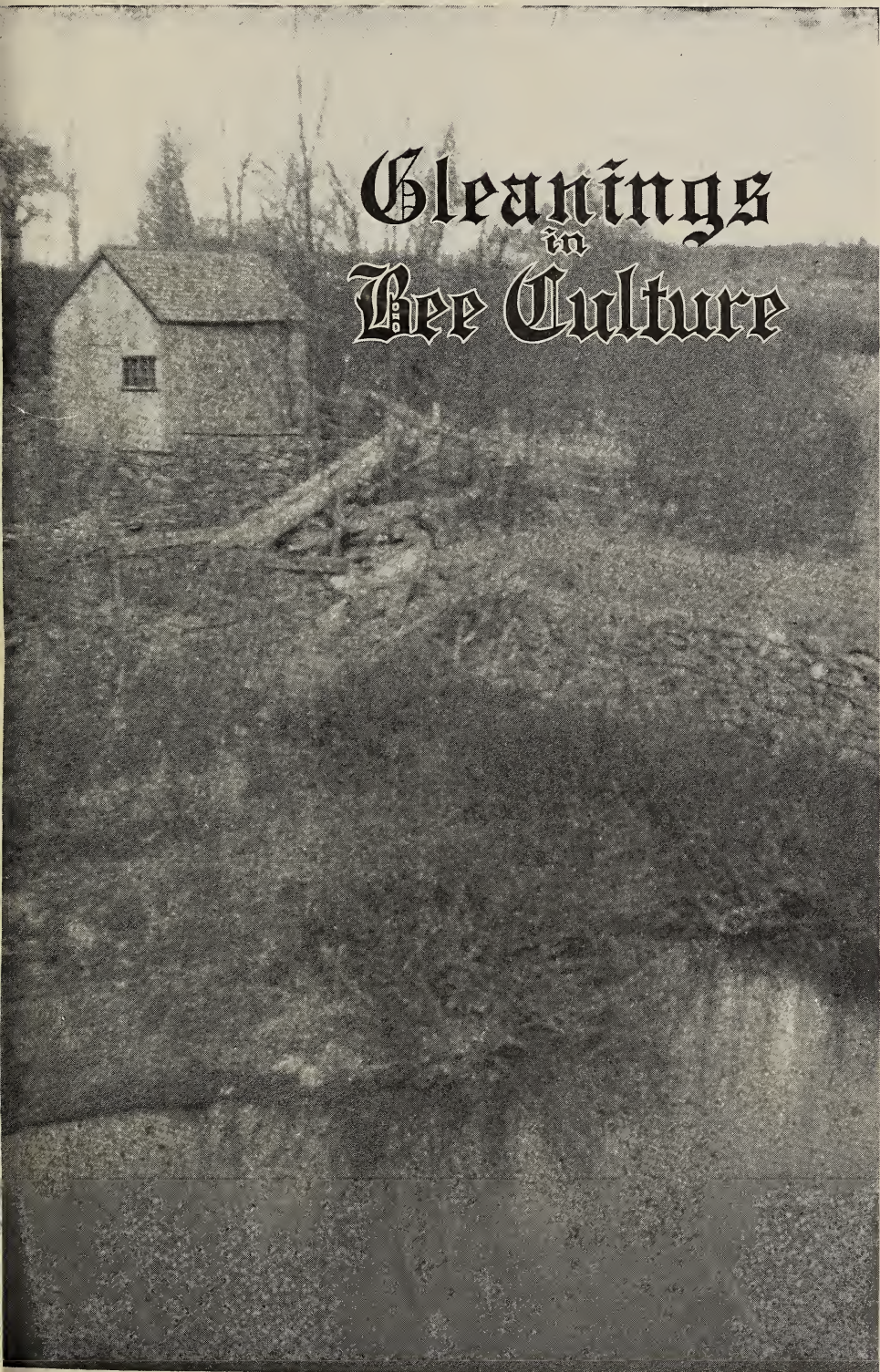


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Gleanings in Bee Culture



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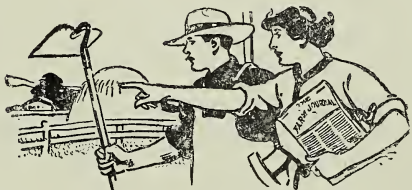
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Gleanings in Bee Culture

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NO. 7

EDITORIALS

WE have the largest and most complete exhibit we ever installed, at the Panama-California exposition, San Diego. Look for the big white front in the "Varied Industries" building. We have another (but smaller) exhibit at the San Francisco exposition in connection with the State Beekeepers' Association. Call and make yourself known.

Foul-brood Bill Introduced to Washington Legislature

THE beekeepers of the state of Washington have been successful in introducing to the senate a new foul-brood bill which is expected to pass both houses. In some respects the bill is not what was wanted, but it will at least serve to pave the way for something better two years hence.

The Foul-brood Situation in San Jose

WE visited San Jose on Tuesday, March 9, and are happy to announce that the foul-brood situation there is much better. The inspector, Mr. L. R. Cody, reports that conditions are improving materially, and he has already given a clean bill of health to a number of beekeepers. So far as we can ascertain, there have been no bee diseases except in the immediate vicinity of San Jose. All the beekeepers there are working hard to eliminate it, and before this reaches our readers there will probably not be a cell of foul brood in the vicinity.

The Pennsylvania \$50,000 Bill

PENNSYLVANIA beekeepers will be interested in the following just received from Prof. H. A. Surface:

A bill providing an appropriation of \$50,000, "to be used exclusively in eradicating, controlling, and

preventing diseases of bees, and in enforcing the laws of Pennsylvania relative thereto," has been introduced as House Bill No. 733 by Mr. Jack, of Armstrong County, and has been referred to the Committee on Appropriations; and in the Senate as Senate Bill No. 281. The members of this committee are as follows:

Woodward, Allegheny Co.; Cox, Philadelphia Co.; Curry, Philadelphia Co.; Gans, Philadelphia Co.; Steedle, Allegheny Co.; Kaiser, Allegheny Co.; Aron, Philadelphia Co.; Eby, Perry Co.; Walton, Lawrence Co.; Wood, Indiana Co.; Neville, Montgomery Co.; Sinclair, Fayette Co.; Scott, Center Co.; Rinninger, Blair Co.; Thomas, Luzerne Co.; Greenwood, Chester Co.; Jones, E. E., Susquehanna Co.; Lindsey, Warren Co.; Flynn, Elk Co.; Body, Berks Co.; Murphy, Luzerne Co.; Ehrhardt, Lackawanna Co.; Hess, Lancaster Co.; Geary, Allegheny Co.; Conner, Philadelphia Co.; Ramsey, Delaware Co.; Myers, Washington Co.; Walter, Franklin Co.; Goldsmith, Westmoreland Co.; McCaig, Allegheny Co.; Schaeffer, Schuylkill Co.; McClintock, Philadelphia Co.; Fruit, Mercer Co.; Neider, Philadelphia Co.; Bovee, Erie Co.; Shaaber, Berks Co.; Spangler, York Co.; Williams, Tioga Co.; Perry, Philadelphia Co.; Shaffer, Columbia Co.; Kitts, Erie Co.

As President of your State Beekeepers' Association, and member of the Legislative Committee, I recommend you to do all that is possible to bring influence to bear on these gentlemen for favorable action on this important measure.

Beekeepers of the Southwest, Take Notice

THE Southern Conference for Education and Industry will hold its annual meeting at Chattanooga, Tennessee, on April 27-30. In connection with this conference there will be a number of smaller conferences on various subjects of interest in the South. One of these will be on beekeeping. The general meetings are held in the morning and evening, and the smaller conferences in the afternoons.

In connection with the beekeeping meetings, it is proposed to devote the first afternoon to a discussion with farm demonstrators and teachers. The second and third afternoons (April 28-29) will be devoted to a beekeepers' conference to which all beekeepers are cordially invited. A number of prominent southern beekeepers will be

present, and these meetings promise to be most helpful. As soon as a definite program can be announced a copy will be sent. In the mornings previous to the meetings of the general conference there will be a two-hour question-box meeting.

It is hoped that some instructive exhibits can be arranged as well as some practical demonstrations. A room has been assigned to the beekeepers' conference for this purpose. Program in next issue.

The Foul-brood Bill in Idaho Vetoed by Governor Alexander

HOUSE BILL No. 54, by York, was vetoed by Governor Alexander, the reform Governor of Idaho. Mr. Alexander, in his pre-campaign speeches, promised the tax-payers that, if elected, he would save them one million dollars in taxes. The foul-brood bill would require \$5000 to put it into execution. Near the close of the legislature the Governor gave notice that he would veto a large number of bills calling for various appropriations. While he tentatively had promised to support the York bill, he gave as a reason for vetoing it that it provided for an unlimited number of inspectors at \$5 per day, such inspectors to be named by the State Beekeepers' Association. He forgot, however, that the appropriation of \$5000 would have held the limit down to a reasonable number.

We give the Governor credit for standing back of and putting through the most magnificent temperance law for statewide prohibition that was ever enacted by any legislature. G. W. York, formerly editor of the *American Bee Journal*, and a member of the House, was a very important figure in the enactment of this legislation. We will give further particulars later through these columns.

The Bees at the Dismal Swamp

WHEN Mr. Rea was at the Dismal Swamp during the latter part of February, farmers were planting potatoes. The bees were flying every day, and bringing in pollen and even nectar. Some of the queens had six or seven combs of brood. On his return, Mr. Pritchard started for the swamp to begin the active work of building up the colonies, etc. However, to our great surprise, the weather suddenly turned cold, and on March 18 Mr. Pritchard wrote that there had been only half a day when it was warm enough to work with the bees. There had been four inches of snow and much freezing weather. The residents say it is the coldest spring in

30 years. It has been so cold part of the time that the men have been unable to nail up hives in the barn. The United States weather maps show that unusual cold weather has extended well down into the extreme southern states. Even in northern Florida temperatures around 40 degrees have been common. C. H. Clute, of Palmetto, Florida, is our authority for the statement that the citrus bloom in the state will be less than half what is considered normal, and that bees have consumed about double the usual amount of stores. Mr. Clute says that February and March were the wettest and coldest of any year on record.

We are afraid that all that brood so well under way in February will be lost. In fact, when Mr. Pritchard wrote, March 18, he said the colonies were decreasing rather than increasing in strength.

Iowa Beekeepers, Write your Senators and Representatives

The following letter explains itself. It arrived just too late for insertion in our March 15th issue.

There is now in the Agricultural Committee in the Senate a bill establishing a Department of Bee Culture at the Iowa State College, at Ames, to teach beekeeping, to do experimental work, to publish bulletins, etc. This bill, thanks to our tried and true friend Henry Brady, of Dallas Co., passed the House some time ago.

Three more bills of interest to beekeepers have just been introduced in the House. One aims to amend the present inspection law, which states that the inspector, upon written notice from three beekeepers in a given locality, must inspect bees in that territory, and also requires him to return later and make a reinspection of all infected colonies. The amendment would require the inspector to examine bees in any locality upon notice from any beekeeper in that territory, and would leave the reinspection optional with the inspector. If he feels that the owner of the diseased colonies is competent to, and will, give them proper treatment, he will not be required to return to the apiary, but can spend that time inspecting other bees.

Another bill would establish the office of county inspector of bees to be chosen from among the resident beekeepers upon petition to the board of supervisors by ten or more resident beekeepers, or upon recommendation of the State Inspector. This county inspector would receive a salary of \$3.00 per day for time spent inspecting bees, the salary for any one season not to exceed \$75.00, and would be directly accountable to the State Inspector.

The third bill, the one which will probably meet with the greatest opposition, would prohibit the spraying of fruit-trees while in full bloom. The state of Washington compels spraying at a certain time; and if a fruit-grower fails to spray at that time men are sent around to do it for him, and he must pay a heavy penalty. The law in Washington prohibiting spraying fruit when in full bloom is just as stringent. Fruit-men are of one accord in condemning spraying when in bloom; but there is some difficulty in getting some to spray under any circumstances, and it is the sense of some that such a law would deter a few from spraying at all.

Considerable injury has been done to bees in various parts of the state by injudicious spraying; and those who have suffered loss therefrom should make it a special point to write their senator and representative, stating the facts in the case, and also write Wesley Green, State House, Des Moines, naming the parties who do such spraying.

Now, in order to get these bills passed, every beekeeper should address a letter to his senator and his representatives, asking their support of the above bills, and one to the Agricultural Committee members, asking them to report favorably on the first-mentioned bill. The members of the committee are Senator Allen, Arney, Hammar, Fleck, Foskett, Dirr, Eversmeyer, Perkins, Fellows, Farr, Lindley, Balkema, Nye, Savage, Grant, White of Iowa Co., and White of Benton Co., and Senator Doran, who is chairman of the committee.

Do not put this off until another day when it is a little more convenient. We must not let these bills die in committee. In order to get them through, every beekeeper should act immediately, and should not stop short of six letters. They need not be long, but tell them what you want, and do it at once.

Des Moines, Ia.

F. C. SCRANTON.

How our Bees have Wintered

To date very few days have been warm enough for bees to fly. We have observed for nearly two weeks that the bees in the warehouse cellar showed signs of dysentery—at times getting quite uneasy. Yesterday morning, March 19, the sun came out bright. We hustled the bees out with the auto truck and team to our basswood yard, where most of them belong. They flew, and cleaned up in fine shape. Although but one colony had died outright, many were needing a flight badly, and were evidently put out just in time. A few days longer in the cellar would have meant disaster. The condition was due, undoubtedly, to aster-honey stores. We are fearful that these colonies will dwindle badly unless the weather from now on is very favorable.

Our queen-breeder, Mr. Pritchard, had some colonies in the same cellar that had been fed sugar syrup last fall, and these showed up in much better shape.

Bees in the machine-shop cellar are quiet and contented since the cleansing flight which they had on February 20.

Spring is advancing slowly—in fact, so far there has not been a single day fit to open hives and examine the bees excepting to lift covers and look for stores and size of cluster. Colonies in the big winter cases and Buckeye chaff hives are just about as previously reported, with brood-rearing progressing slowly. In the end this may be all for the best, as slow gains usually mean sure gains in brood-rearing. We are always apprehensive of a spring that gives too warm weather in March, and then turns cold later. Heavy losses of brood are almost sure to result.

As we have often pointed out, there are many differences in conditions only a few miles apart. In this connection the following letter from A. C. Ames will explain itself. Mr. Ames' bees are not much over fifteen miles in a direct line from the apiary that we are wintering in the large quadruple cases.

Dear Mr. Root:—I have just read your editorial in the March 1st issue in regard to the large cases. It seems very strange to me that you did not find brood. I examined the brood-nest the same day you did, and found brood in all stages from eggs to young bees. I examined six colonies, and found only one colony that did not have sealed brood, and in three colonies I found young bees. I have never had bees winter in a more perfect condition. Of course we have March to deal with, and sometimes it is the hardest month; but as we have had several good fly days I do not fear the result.

It is quite cold to-day (March 9); but the bees are carrying water. When we consider these good results we must also take into consideration that this has been one of the best winters we have had for years—good steady winter weather without much if any wind. Wind is the worst thing we have to contend with in winter.

I believe bees will winter well in all the northern states.

Peninsula, Ohio, March 9.

A. C. AMES.

An Interview with Dr. A. J. Cook, of California, on the Spraying of Cover Crops

WE had an interesting interview with Dr. A. J. Cook, Horticultural Commissioner of California, who is located at Sacramento. In referring to the sprays that were falling upon the cover crops of western Colorado, and which, it was believed, were killing bees in a wholesale way, he gave it as his opinion that these spraying liquids would kill the bees in large numbers. There had been several experiences of that kind in California. He was recommending the vetches, which do not come into bloom when the sprays are applied. In fact, he doubted if it were necessary for the Colorado fruit-growers to spray as often as they were doing. If the work were *properly* done it would hardly be necessary, he thought, to spray when the cover crops of clover were in bloom.

He admitted that the very dry climate of Colorado might call for more sprayings than were found necessary in California, but he thought if the fruitmen and beemen would get together they could easily arrange the matter so there would be no loss to any one.

Cover crops are being used throughout the western orchards to a very great extent, both to supply nitrogen to the soil and to keep it from drying out too quickly. When

plowed under they furnish a fine humus, so necessary to the proper fruitage of the trees.

Dr. Cook went on to explain that the vetches and annual yellow sweet clover, known as *Melilotus indica*, are being used almost exclusively in California for the purpose. In this connection it is proper to remember that *Melilotus indica* is also known as the annual yellow sweet clover. This is also a honey-plant, but not quite the equal of the *Melilotus officinalis*, nor yet quite the equal of the white sweet clover, *Melilotus alba*; but the fact that the annual yellow sweet clover, *Melilotus indica*, is one of the best cover crops that can be used by the orchardist, suggests that perhaps the Colorado fruit-growers on the western slope could use it; if not that, they could use the vetches, both of them supplying nitrogen to the soil, and at the same time make an excellent humus. The beekeepers of Colorado should suggest that their friends the fruit-growers try something else as a cover crop that will not be prejudicial to the interest of the beekeeper.

Beekeeping in the Great West

THERE are certainly some very fine bee locations in the great West. Most of them have already been taken up, and many of them are overstocked. There are localities where new irrigation schemes are under way, and alfalfa is just being grown. These will be found in parts of Montana, Wyoming, and northern Idaho. Most of the good bee territory in southern Idaho has already been taken, much of which is overstocked. About all one can do in established territory is to buy out some good beekeeper. The same rule practically holds in Colorado, Utah, Nevada, and southern California. There is some new territory not taken in the northern part of the state. If any one from the East desires to go into beekeeping he should buy a ticket, and tour the country thoroughly before he decides to locate. In most cases he will have to buy out some one else already on the ground, and probably this can be done.

It certainly does not pay a tenderfoot to go out into the western country and attempt to squat his bees down near some resident beekeeper who thoroughly knows the locality. The newcomer is generally frozen out if it is a freeze-out game.

This is not written to discourage the emigration of eastern people; but it is only fair that they know what they will run up against in old established territory if they attempt to locate without buying out a bee

range. There seems to be a sort of unwritten law among the western producers to stand together and protect each other, and we cannot blame them.

Our Cover Picture

IN this special Quinby number we are much pleased to be able to present so interesting an array of pictures closely associated with Moses Quinby. His son-in-law, Lyman C. Root, whose article appears on another page, made a trip, at considerable inconvenience to himself, to the old home in Greene County, where Mr. Quinby wrote his first book, and where he made most of the investigations which have so greatly influenced the whole beekeeping world. We are especially glad that he secured a photograph of the old mill where Mr. Quinby earned the support of his family in his early years, and where he made his hives. This picture is shown on our cover. The building shown is not the old mill. Some of the old timbers of the latter are to be seen in front of the building, by the rocks that were part of the old dam.

On another page is shown a copy of the old engraving, taken from his book published in 1865, showing queen, drone, and workers, also worker and drone cells. Even with the advanced knowledge gained in the fifty years that have elapsed, this can be considered a most faithful and perfect drawing. In this connection it is interesting to note that Mr. Quinby's daughter made the sketch with a pencil. As Mr. L. C. Root says, it certainly illustrates Mr. Quinby's accuracy in whatever he undertook.

Just as we go to press we received the following from L. C. Root, which is so interesting we give it a place here. The photograph of the extractor will appear in our next issue.

I have secured a picture of the first metal-can extractor that Mr. Quinby made after the one I described.

I am looking forward for the Quinby number of GLEANINGS with much interest. Was he not first to keep bees in large numbers in out-apiaries? first to ship honey in large quantities to any market? first to place beekeeping on a commercial basis with other branches of agriculture? first to use the honey-extractor to produce honey by the ton? first to invent a self-spacing frame? first to discover that when bees are wintering well, they discharge their feces in the dry state?

I have never appreciated father Quinby's life-work as I have since I have been visiting the different places where he spent his life. Everywhere I have found evidences of his unselfish life and largeness of purpose. I am just beginning to appreciate some of the embarrassments he had to meet through lack of appreciation.

You will see why the coming number will be of deep interest to me.

Stamford, Ct., March 8.

L. C. Root.

Dr. C. C. Miller

STRAY STRAWS

Marengo, Ill.



W. J. WOOLLEY, p. 233, reports an average of 30 lbs. per colony. Looks a little like small potatoes. But when you figure it at 18 cents (9d) per pound, or \$5.40 per colony, some of us might be glad to swap places.

I'M PROUD of my native state, good old Pennsylvania, to think she has a governor who would propose \$50,000 for the benefit of beekeepers, p. 216. But then it's just like Governor Brumbaugh. Do you know that he's one of the leading Sunday-school men of the land?

UGHT not that statement, p. 240, that the building of queen-cells is inseparably connected with swarming, be cut just about in two? Remember that under natural conditions *every* queen, when she closes her career, has cells built for a successor, with no thought of swarming.

G. M. DOOLITTLE, p. 224, my record-book does get daubed with honey and glue, but with a new book each year the trouble is not serious. I don't understand the wind blowing your book open at the wrong place in spite of best endeavors. No trouble worth mentioning here. Locality?

E. S. MILES has covered the ground as to taking bees out of cellar exceptionally well, p. 232. One thing just a little different here. With a two-inch space under bottom-bars, we can quickly clean out dead bees after a hive is placed on its stand, and close the entrance before bees wake up to fly out.

YOUNG fellow, read carefully all that's said, pages 133 and 135, about just exactly how you're to make candy to feed your bees, and then make up your mind decidedly that only in extremities will you ever put any of it in practice, but plan ahead to have extra frames of sealed honey to meet all emergencies. Take it from me, you'll never be sorry.

A GOOD deal is told about sugar, p. 214, and what of it? Well, several things, and chiefly that 86.85 pounds average annual consumption. Do you realize what that means? It means that inverting so large an amount as that is too heavy a strain on the digestive organs, hence a weaker nation. It means something worse than that. For that *average* means that, while some use much less, others may use double that amount, hence a lot of people are practically killed by sugar-eating. Uncle Sam

might do a good deal worse than to spend a few thousands in a campaign to educate the people so that at least half the sugar should be replaced by honey. But in that case could the demand be supplied?

UNCLE JOE BLUNK, referring to my wintering, says I can keep the door of my beecellar closed all the time if I connect a pipe in the beecellar with the furnace chimney, as "enough fresh air will seep in through the walls of the cellar to feed the place." I should have explained that I have a stove-pipe-hole entering a chimney in the beecellar. But no "seep" business is good enough for my bees. They like the air to come in a flood.

"BESIDES there are many basswoods and linden trees," p. 185—which reminds me. Years ago a man in Marengo had in his yard several basswoods perhaps 40 years old. Happening in that part of town one day I noticed that they were taken down, and that some little trees four or five feet high had been planted. With some degree of pride he said, "I had those common basswoods taken out, and got from the nursery some choice shade-trees—lindens."

SURPRISING is that statement, p. 242, that by using the Alexander plan, "putting the queenless colony right on top with nothing but the honey-board between the chances are that the swarming tendency would very rapidly develop into a mania." Surely so good a beekeeper as Mr. Alexander would have discovered if that were so. Moreover, I have practiced it hundreds of times where cells had been started, and have always counted it a cure for the swarming mania. What can make the difference?

POUNDING home the truth that bees are necessary for pollination, and that spraying in bloom hurts the fruit, will do some good; but no matter how intelligent a fruit-grower is, he will spray before bloom is gone if he is selfish enough unless the law prevents him. He says, "I know all about what you say; but I can't get through spraying in time unless I begin before all have gone out of bloom. Even if I could I don't want to. If I wait till all bloom is over, there is a little danger that some of the oldest fruit will be wormy. If I spray when two-thirds of the bloom has fallen, and kill all yet in bloom, there will still be left more fruit than the trees can mature, and I'll have no wormy fruit. Me for the earlier spraying." Now what reply have you?

NOTES FROM CANADA

J. L. Byer, Markham, Ontario



From numerous reports in late issues of the *Journal*, as well as in private letters to hand, I might be doing a bit of worrying about that yard up north which I have not seen since early in November, and which is wintering mainly on aster stores. Many are reporting bad results in localities further south, where the bees have had a cleansing flight. There are 250 colonies in the yard in question; and as there is no practical beekeeper right near the bees to report conditions to me, I have not the slightest idea how they are. I had purposed to go up before this; but as the distance is nearly 100 miles from my home, and nothing except gratifying my curiosity would be accomplished by the trip at present, I have delayed going. I expect to go there when the first warm spell comes along, and will then report just how things are for the benefit of the many who have made inquiries.

It is not often that the editor gives me such an opening as that on page 176, March 1, when he tells of so many colonies being dead. He says, "We found the clusters actually starved to death with plenty of stores within two combs distance, either on one or both sides, because the weather remained cold so continuously." It is easy to explain the cause of this loss. There was too much "winter nest." But, joking aside, this is an illustration to prove the necessity of having combs well filled to be sure of successful wintering outdoors in a climate as cold as here in Ontario—much colder, by the way, than it is in Ohio. It is because we have learned this fact by dear experience that I would not be afraid to wager a good deal that, among hundreds of colonies being wintered outside by Sibbald and others, none will be found in the condition so well described by the editor. Bees seemingly can move upward on stores, no matter how cold the weather is; but with steady cold weather they cannot break cluster and move sidewise.

April is the month in our latitude when beginners often do harm to colonies by handling them too often, many times in unseasonable weather. As a matter of fact, beginners are not the only ones who make these mistakes. Generally speaking, if one has the bees well protected, knows they have

sufficient stores, etc., a let-alone policy is the best by all means. Possibly there may be a very few exceptions, but they simply prove the rule. Hundreds of good queens are lost every spring by the colonies being manipulated too early or at least too often. At this time of the year, for some reason, the bees are unduly solicitous as to the queen's safety, and often on the slightest disturbance they will ball her—something that spells disaster for the colony at this early date. I know it is very tempting on a nice warm day in early spring to have a look to see how that favorite queen is doing—to see how many combs of brood the colony has, and to see the fresh pollen; but better curb your curiosity till a later date than to find, a few days later, when again examining the brood-nest, that some stubby queen-cells are started, telling you that the queen you were anxious about has disappeared.

On page 180, March 1, P. C. Chadwick says the writer of these notes "complains" because the bees have had no flight since the last of October. I hasten to say that is not quite correct—at least I hardly meant it that way, even if what I said does sound somewhat like a complaint. It is my honest opinion that the man who is keeping bees for a living will either develop the virtue of patience or else become a confirmed grouch; and while I am not any too patient at best, still I hope that I do not qualify under the latter heading. I try not to complain about things I am not responsible for or have no control over—the weather comes under this list; and if I wish to complain, there is always enough material to draw from in connection with things I am responsible for.

P. C. Chadwick's bees may have too many flights to suit him during the winter season—if we can term any part of the year in California under that heading; but when I say that at this date—March 8—our bees have not yet had a flight, I venture to say that he would sooner choose conditions as they are with him than to change with us. However, we are doing no worrying; and if the bees have had no flight, we have had a delightful winter, and the chances are that we shall have enough bees left for "seed" anyway. A few weeks at the most, and we shall know the worst or the best as the case may be.

BEEKEEPING AMONG THE ROCKIES

Wesley Foster, Boulder, Colorado.



CAUSE OF AMERICAN FOUL BROOD.

Mr. J. D. Bixby has a rather amusing and somewhat interesting paragraph in the February *Western Honey Bee*. He says he does not know what are the causes of American foul brood. Then he proceeds to guess or presume that there are two kinds of cases of American foul brood—contagious cases and sporadic cases. He says (or I guess he does) that rotting drone brood from a healthy hive will, if the bees work over the stuff and take up the "foul juices," produce "sporadically" American foul brood. You are to understand that this is not genuine contagious or infectious American foul brood, but just sporadic American foul brood which means that it may be carried to other hives or it may not. I'll bet the price of half a round-trip ticket from Boulder to Covina, Calif., that Mr. Bixby cannot produce a case of American foul brood by using any such method. I do not care whether it is "sporadic" or "contagious" American foul brood.

The bill before the Colorado legislature, Senate Bill No. 77, introduced by Senator Schermerhorn, is in the hands of the Finance Committee, of which Senator Hasty is chairman. This bill is the one designed to control the cutting of cover crops before orchards are sprayed. There is some opposition to this bill among some of the fruit-growers, but it is probable that the bill can be passed if the fruit-growers understand it. It is not designed to force the fruit-growers to practice clean cultivation, as has been claimed. The object of the bill is to prevent the spraying of orchards when the cover crops growing therein are in bloom. Cutting the blooming clover, or turning it under just before doing the spraying, will solve the difficulty, and this phase of the situation is the only one touched.

If the beekeepers in the fruit districts are not given protection, such as is designed in this bill, there is no use in trying to carry on beekeeping for honey production in the same district with fruit-growing.

If all Colorado beekeepers will write their representatives in the legislature at once, the probabilities are that the bill may be passed. Write at once, and keep on writing until you get a definite pledge from your representatives that they will support this bill. If you can see your representatives personally, so much the better. Telegrams

also often have a very beneficial effect. We have used them to good effect in the past, and they will be used in this campaign.

Frank Hill, in March 6th issue of *The Country Gentleman*, has a very interesting article on "A One-horse Farm." He is apparently located near Kansas City, and has a 5½-acre place from which his income is around \$1400 a year. His bees bring him in \$500 a year on the average, which is the largest single item of his diversified operations. Strawberries come next on the list. He says the bees are the most variable in regard to annual production. One hundred and twenty-five colonies are kept. His "farm" has no chickens; and his chicken story, comparing it with bees, is highly interesting and humorously written. Here it is:

When I bought my farm I did not intend to raise chickens. I had been through the chicken-mill. Upstairs somewhere there is a big box that contains my chicken things. There are a good many dozen ribbons—lots of them blue; several diplomas and five silver cups, all won at the state poultry shows of Kansas, Missouri, and Nebraska; also in the box are caponizers, leg-bands, lice-powder, many dollars' worth of chicken medicine, and enough literature to instruct anybody how to get rich in the chicken business.

I had the chickens when I was in business. I raised and showed them for fun—they paid me in fun. The few hundred dollars I got in spring and summer for hatching eggs, and in fall and winter for exhibition and breeding birds, just about paid expenses.

It pays the general farmer to raise chickens. He has grain, and keeps stock. On such a place the fowls have a wide range, and the waste grain goes a long way toward keeping them, but nothing of the kind on a small place. Try it. Buy your feed at market prices. Sell your eggs and meat on the market. Keep books. See how you come out. I doubt if there will be enough left to buy the next new brooder that comes out.

But while I was in the business I had another diversion that stuck, and stuck on its merits—bees. Bees are the most interesting proposition I have ever wrestled with, and for profit they have chickens backed clear off the right of way. They don't need incubators, brooders, chick feed, nor grit. They don't have lice, mites, roup, limber neck, liver trouble, nor cholera. You don't have to get up in the middle of the night to see that a lot of little chicks are not getting chilled, nor chase away some prowling cat or skunk. You don't have to hustle a lot of one-pound birds into their coops before a big rain for fear the lunatics will stand out in the storm and get drowned. Bees know their business, and attend to it. Bees can be kept anywhere in the United States, and almost anywhere they will show a profit if properly managed. A back yard big enough for a coal-box is space enough for two or more colonies of bees. They are kept in garrets and on roofs of buildings in large cities. Almost any spot big enough for the hive will do, and a mighty small place will accommodate a hundred hives.

BEEKEEPING IN CALIFORNIA

P. C. Chadwick, Redlands, Cal.



Mr. Arthur C. Miller gives an interesting account of stopping a bad case of robbing. It is interesting to me because of the fact that no argument can convince me that I would not be getting into a worse muss than ever if I tried the same plan in my apiary.

I am glad to note that the necessity of producing a clean ripe quality of honey is constantly increasing. The present depressed condition of the market is having a wonderful influence in this respect. The beekeeper has come to the realization that, if he is to sell his product, it must be up to a high standard in color and body. A few with whom I talked at our state convention argued that the producer can still sell a thin honey at a price almost equal to the heavier qualities, and very much more could be produced. This idea should be discouraged—first, for the reason that it is not strictly honest; and, second, because it has a depressing influence on the market. When a consumer buys a poor grade of honey that sours on his hands he is very reluctant about buying more. Then, too, I am of the opinion that thin honey will not pass the inspection of consistency required by the pure-food law. It is greatly to be hoped that it will not, for that would eliminate it from the market quicker than any argument. There are many of our producers who are none too particular about this point in honey production. It should be the object of every producer, however, to put up an article that would give him first thought in the minds of honey-buyers.

In this connection I am going to rehash my views on the necessity of plenty of comb room. There are many who argue that there is a great loss in waiting for honey to ripen. This is quite true when there is a lack of room in which the raw nectar can be stored while the ripening process is in progress. That is why I am always preaching plenty of room. Now, by plenty of room I do not wish to convey the idea that an unreasonable amount of combs should be placed on the hive. In fact, I hold the opinion that no more than two supers above the brood-chamber should be used in producing extracted honey. When tiered up to a greater height there is both time and bee force wasted—time, because of the necessity of the bees having to go so far from the entrance to such a great height; bee force,

because, when the product is finished, it will be constantly guarded by bees that might be better employed. The season should be started with a single super. If the season is favorable when sealing is begun, another super of empty combs should be placed under. When sealing begins in the lower the upper will be ready to come off, be extracted, and be replaced under the remaining super. In this way plenty of room can be furnished for the raw nectar while the ripening of the upper super is being completed. That a crowded condition follows the single-super plan, causing a great loss, there is no doubt. I have tested this out on the scales to satisfy my own mind. Take a single super that is a half to two-thirds sealed when nectar is coming in freely; weigh the hive for two or three days, then place an empty super of combs under, and note the increase in the daily weight.

In the editorials, page 94, Feb. 1, will be found some data relative to the chilling of bees in winter, that may well be considered by us in "sunny" California—not that we have temperature that hovers below the zero-mark, but that we lose many bees by being chilled in the field. In the above-mentioned editorial an instance is given where bees were suddenly chilled by a cold wind and rain storm, while at play, and were unable to return to their hives. A coat of ice was frozen over them for a period of three days, after which they were thawed out and warmed sufficiently to enable them to return to the hive, which they did. I have had such a variety of experiences with freezing, chilled, and so-called "winter killed" bees, that at the present time my mind is unsettled on the subject.

Our loss during the spring months by bees being chilled while in the field is a well-recognized fact. If a bee will stand the plight of being frozen in a coat of ice for three days and then be able to return to its hive, why should our loss be so great? There is seldom more than a few days at a time when the sun does not shine sufficiently to give any bee that may have been chilled by the wayside sufficient warmth to renew its activity. Then what becomes of bees that are left in the field on cold days?

During the later 80's I made some observations in the East relative to bees remaining in the field over night. I satisfied myself that they quite often did so, returning in many instances in the early dawn when

no bees had left the hive going to the field, and proved to my satisfaction that they were returning from the previous day's trip. But there the climate is quite different from ours in the West. The night air is quite often as warm as during the day, and the only reason a bee would have for staying out would be that of being overtaken by darkness. I have made similar observations in this state, but have concluded that, if a bee is left in the field over night, it either never returns, or is so late in the day returning that it could not be told from any others that were returning. This is explained principally by the fact that at sundown here the air begins to cool rapidly and they are warned of night's approach, which drives them homeward.

But our loss seems to be from chill that occurs during the day, and holds them out during the day or even longer. There is a loss, and a heavy one; but why, I am not able to say positively at this time. There is a possibility that, when a bee is overcome with cold when full of nectar, it may not have the recuperative power that it has when not loaded. The heat generated by the bee's body may be sufficient to revive it; but when cold nectar fills its sac, and it is unable to disgorge it, it may not have sufficient heat to overcome the chill of the nectar. We find them dead under orange-trees and on the sage and other flowers after they have fallen victims to cool air.

Mr. Doolittle makes some interesting suggestions in the March 1st issue about breeding bees for certain purposes. After opening several phases of the matter he asks if there is a reader who can give any light. He has opened a good field for thought, and as he has asked for light I will give at least some suggestions. There may be a difference worth breeding for in the ability of some strains to reach the honey of certain flowers that others fail to reach. I am not ready to believe that a strain of bees bred in New York or Iowa will work differently than the same strain would in this state. There is a possibility that a strain bred for many years in the South would not winter as well in the North as northern-bred bees. The period of time that would be required to bring about any great change would be more than the allotted time of man.

Such changes come about with an evolutionary rather than a revolutionary movement. With the modern way of transporting queens many hundred and even thousands of miles, and the constantly changing of blood from north and south, it is hardly likely that any great variation will ever be

noticeable—at least until many generations have been bred under the same climatic conditions. It is quite true, as Mr. Doolittle says, "It is one of the laws of nature that the further north or south of the equator any animal or plant can live, the tougher and harder it becomes." But this very law of nature was established after many years of gradual hardening and adaptation. When we compare the life of a bee to that of other forms of animal life it is indeed very short, and I believe a change in climate would not affect more than a generation or two of bees. There may be, however, a greater difference than I am aware of.

I have noticed that the bees from queens shipped to this climate from the North are more subject to paralysis than our native-bred bees; but the same has been true of queens from Texas and other southern localities. I have never noticed that there was any material difference in those raised in the South from those raised in the North. My experience with southern-raised queens shipped to the North was made some years ago, and I am somewhat hazy on the exact results of my experiments. It is not my intention to say that all queens from the North produce paralytic bees in the South, but, rather, that it is more prevalent than with those bred in the South.

On this line the thought comes to me that we have the two phases of the situation very near home. Some may remember an article I had in these columns a year or so ago, on bee life in the San Bernardino Mountains. The bees that now inhabit those higher altitudes, where snow covers the ground from early winter until late spring, are the bees that a short time ago nestled under the orange-trees of the valleys. It is even possible that the swarm of last summer is now wintering near the timberline where the temperature hovers near the zero-mark during the entire winter. I have no doubt that a colony taken direct from our valley apiaries to the zero weather of the higher mountains would winter fully as well as those that have been in the mountains for many years. There has been an effort for many years in this climate to acclimate orange-trees to stand a lower temperature; but the result was much like the man's horse that he had trained to eat less and less until, when the job was finished, the horse was dead. There is, as Mr. Doolittle says, "a difference in different colonies in the same locality as to the successful outcome at the end of the season." But we find the colony that forges to the front this year is, as a rule, behind the average the following year.

CONVERSATIONS WITH DOOLITTLE

At Borodino, New York.



PREVENTION OF AFTER-SWARMING.

"Will you tell us how to control after-swarming? Last year during haying time, after the colonies had all cast their prime swarms, after-swarming became a perfect nuisance."

Persistent after-swarming is one of the disgusting things where natural swarming is allowed, and is hard to stop after the bees once get started. Some of our practical beekeepers depend upon hiving the prime swarm in a new hive on the old stand, and immediately carrying the old colony to a new stand a rod or more away, reasoning that, with the loss of bees which go with the swarm, and by a still further loss by all of the flying bees returning to the old location and joining the swarm, the parent colony will be so reduced that the bees will of themselves give up all idea of further swarming. They tear down all queen-cells but one, or destroy all embryo queens after the first young queen has emerged from her cell. Thus after-swarming will be done away with by this one change of location with the old colony. This does not always work in all localities, for there is an occasional colony which will settle down in an hour or two after being carried to a new stand, so that the flying bees do not "draw" off, as it is expected they will, and thus enough are left, with the hundreds and thousands continually coming from the maturing brood, to cherish the immature queen-cells, so that perhaps one colony out of four will go on with after-swarming.

Other practical beekeepers consider a modification of the above to be almost perfect, claiming that not one colony in fifty will ever send out an after-swarm if the modified plan is used, which is: Reduce the bees in the parent hive by hiving the prime swarm in a new hive on the old stand, then gradually turn the old hive around beside it till the entrance faces at a right angle from that of the new hive. Next set this old hive on the opposite side of the new, with the entrance facing the same way as the new, and as it did when the swarm issued, then gradually turn it toward the left. In four or five days the most of the flying bees will have joined the swarm in the new hive. In two days more, or seven days in all, at about two o'clock, when the bees are flying freely, the old hive is to be carried to a new stand, and left there. This gets the new recruits of flying bees in with the swarm, and still further reduces

the bees in the old hive till there are no more left than to care for the small amount of brood. For this reason all thoughts of swarming are taken away, the immature queens slaughtered in their cells, and the young queen, due to emerge from her cell on the seventh day after the prime swarm issued, becomes the mother of the colony. If, in addition, the super that was on the old hive when it swarmed is immediately taken from the parent hive and put on the new hive into which the swarm was placed, this will not only reduce the bees in the old hive, but give an impetus to the swarm by way of making it at once enter the sections. This impetus, together with the many young bees that are thrown in with the swarm, with each turn of the old hive, will lead to a greater yield of section honey than under any other circumstances. Good results can be secured, especially where light hives like the Heddon are used. But with the ten-frame Langstroth or any double-walled or chaff hives, this gradual turning of the old hive and carrying it to a new stand is a laborious, time-consuming operation.

The plan which suits me best is to hive the swarm on a new stand, allowing the parent colony to remain where it always stood, and in some short way putting the date of issue of the prime swarm on this old hive. On the evening of the eighth day go to this hive and place the ear against the side of it; and if the bees have concluded to cast an after-swarm you will hear the first-emerging young queen piping above the gentle humming of the bees inside. If you do not hear it, listen just a moment each evening till the fifteenth day. If not then, you may know that no swarm will issue from that hive as an after-swarm. If you do hear it, you may know that one of the young queens has emerged from her cell and is at liberty among the bees, and that an after-swarm is likely to issue the next day. The next morning, after hearing a queen piping, open the hive and shake the bees off each frame of comb, when you will carefully look for queen-cells, pinching off every one as soon as seen, and shaking the bees in front of the entrance, into which they will run as fast as shaken. If the colony does not have a super, put one on, when all swarming will be done away with, as you are certain that the bees will now have only the one queen which was piping. When worked in this way, both the new swarm and the old colony will give good results in section honey.

GENERAL CORRESPONDENCE

MOSES QUINBY, FATHER OF PRACTICAL AMERICAN BEEKEEPING

BY LYMAN C. ROOT

On account of my long acquaintance with and relationship to Mr. Quinby, I welcome with the greatest satisfaction this Quinby number of *GLEANINGS* and the reprint of the first edition of his "Mysteries of Beekeeping." This spring is the fortieth anniversary of his death; and the facts of his life, familiar to all beekeepers at that time, will bear repetition now for the younger generation.

Moses Quinby was of English stock, descendant of William Quinby, who came to America prior to 1664, and settled in Westchester County, being one of its patentees.

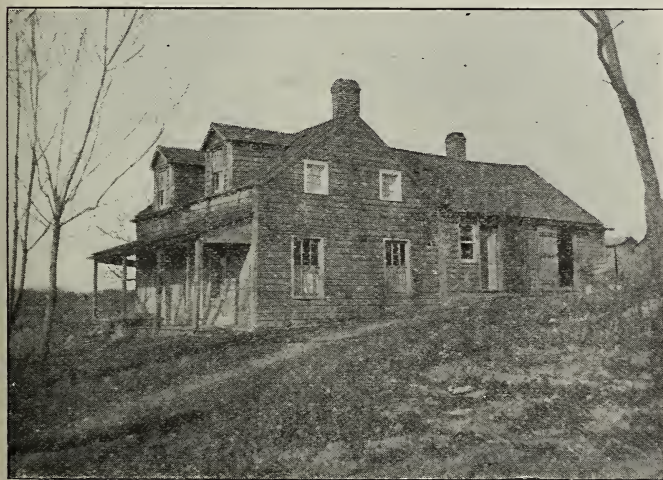


FIG. 1.—Moses Quinby's home in Greene Co., N. Y.

The family continued to reside in this county, and Moses Quinby was born in the town of North Castle, son of William Quinby and Hannah Sands, on April 16, 1810. During his boyhood his family removed to Coxsackie, Greene County, New York; and living in both places in the country he was early associated with life on the farm and in the woods and fields, and his knowledge of the habits of birds and animals began at an early age.

Here in the town of Coxsackie, in 1828, at the age of 18, he earned his first money, working in a sawmill, and with it purchased his first swarm of bees and began the twenty-five years of study and experiment which prepared him for the writing of his book, published in 1853. In 1832 he married Miss

Martha Powell Norbury, also of English extraction, and, like Mr. Quinby, a Quaker. They were married at the Norbury homestead. From this time till his removal to the Mohawk Valley he lived at the home shown in Fig. 1. There was a mill on the place, the ruins of which may still be seen in the picture on the cover of this number of *GLEANINGS*, and he earned the support of his family in these early years running the turning-lathe and doing cabinet work, many specimens of household furniture made by him being now the valued possessions of his granddaughters. Here also he

made his hives and the first honey-boxes. It was gratifying to me on a recent visit to find remaining, after eighty years, so many evidences of Mr. Quinby's work at his early home. In Fig. 2 may be seen the terraced side hill where his rows of hives were arranged. I have reason to believe that at this period there were more bees kept in this section than in any other part of the United States. For years after Mr. Quinby's death I have been to this location to buy bees to replenish my

home apiaries. On a recent visit I saw small apiaries, many of them using the form of hive Mr. Quinby had recommended.

He says he "commenced without any knowledge of the business to assist him, save a few directions about hiving, smoking them with sulphur, etc." Beekeeping was considered a matter of luck. His friends and neighbors on all sides discouraged him. One wise old man predicted failure for him because he potted with them too much, boring holes in the top of the hives and disturbing them. All of this advice only stimulated him to greater action. He prefixed to the word "luck" a big *P*, and underlined it.

Here he spent twenty-five years experimenting and writing, with a determination



FIG. 2.—The terraced ground where the rows of hives stood 80 years ago.

to place beekeeping on the same successful financial basis with other branches of agriculture. All his experiments during this period were made with bees in box hives, there being no better ones at that time.

His first move to avoid destruction of the bees in securing the honey was by boring holes in the top of the hives, and finding that the bees would fill large boxes put over the hive. These were the forerunner of the super and section. Another menace to success in beekeeping was foul brood. Re-reading the chapter in his first book, in the light of the modern science of contagious diseases and bacteriology, shows it to be a marvel of careful observation and accurate

reasoning that would do credit to the present day. The principles of his treatment of the scourge can never be changed. These and many other facts Mr. Quinby found had never been published; so, being by nature philanthropic, and having an unselfish desire to help others in a practical way by sharing his knowledge, he wrote this accumulated experience of twenty-five years into his "Mysteries of Beekeeping Explained, being a complete analysis of the whole subject," as the title-page quaintly states. The book was written in the room pictured in Fig. 3, by the light of a tallow candle. As I reread the book I realize how fully up to date it was for 1853, and how fundamen-

tally correct were his statements and deductions on many points. It bears evidence of being entirely the author's own work. He started with no knowledge of the subject, but with an inquiring and open mind; had no help from others, and only theoretical information from the limited literature on the subject of bees. The key-notes of its success appear to me to be the scientific attitude of its author, unusual at that period—the clearness and plainness of its



FIG. 3.—The room where Mr. Quinby wrote the 1853 edition of his book.

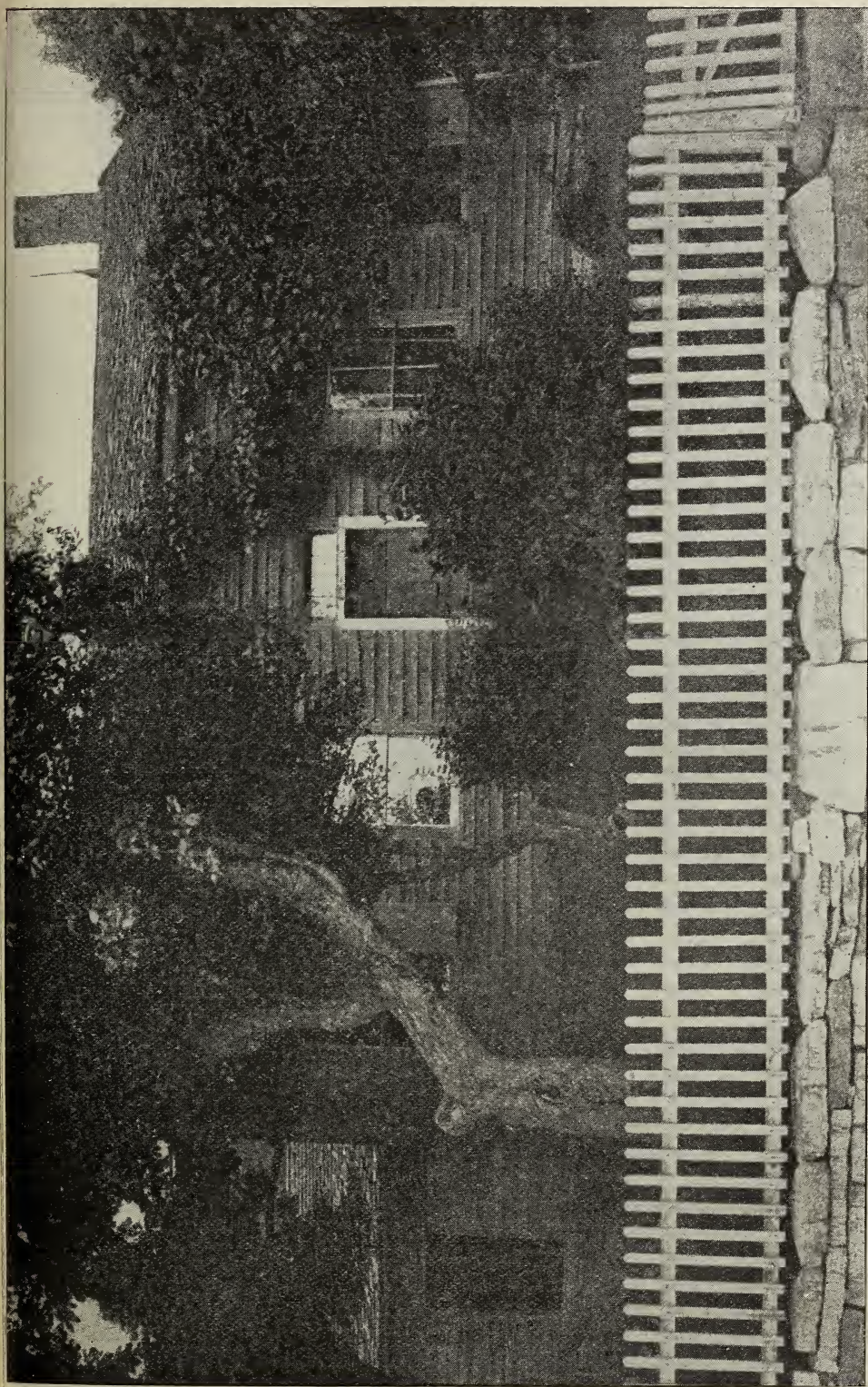


FIG. 4.—The Quinby home at St. Johnsville, N. Y. Mr. Quinby moved here in 1853, the year his first book was published.

style, and the effort to help and instruct the reader rather than impress him with the accomplishments of the writer.

We do not know just when he was able to make beekeeping his sole business and the support of his family; but he certainly did so after his removal to St. Johnsville, Montgomery County, New York, in 1853, the year his first book was published. During the next ten years he owned the largest number of swarms at any time during his business career, and began to send large amounts of honey to the New York market, even while still using the box hive. There being only a moderate demand at that time he nearly glutted the market. This was, indeed, the beginning of the reconstruction period in beekeeping. In 1856 Mr. Quinby's attention was called to Mr. Langstroth's invention of a movable-comb hive. He saw its advantages, and at once adopted it in a modified form. Then followed the introduction of Italian bees, honey-extractor, comb foundation, single sections for comb honey, and his own invention of the bee-smoker. These were indeed gratifying days to Mr. Quinby. Who was there in all of the beekeeping world so well prepared as he from the standpoint of practical experience to meet the needs of this wonderful forward movement?

Mr. Quinby's non-swarmling standing frame hive enabled him to accomplish large results under his management. Much might be said in regard to Mr. Quinby's preferring the larger frame. Marked success can be secured only by extremely populous swarms. I have proven the larger frames very advantageous to that end.

I shall never forget the enthusiasm which was caused at our home when the words "centrifugal force for removing honey from the combs" were received in the report of the invention of Major de Hruschka, of Vienna. An old fanning-mill, which had

been used for cleaning grain, was at once taken apart, the fans removed, and wire cloth stretched around its four sides. A larger box was made, inside of which this frame was arranged to revolve, and with the gearing of the fanning-mill it was set in motion. The gratification with which Mr. Quinby saw the honey thrown from the first combs cannot well be described. He soon made an extractor in more workable form, which was afterward perfected by A. I. Root, and known as the Novice extractor.

Mr. Quinby realized that, though fearless himself, people were deterred from keeping

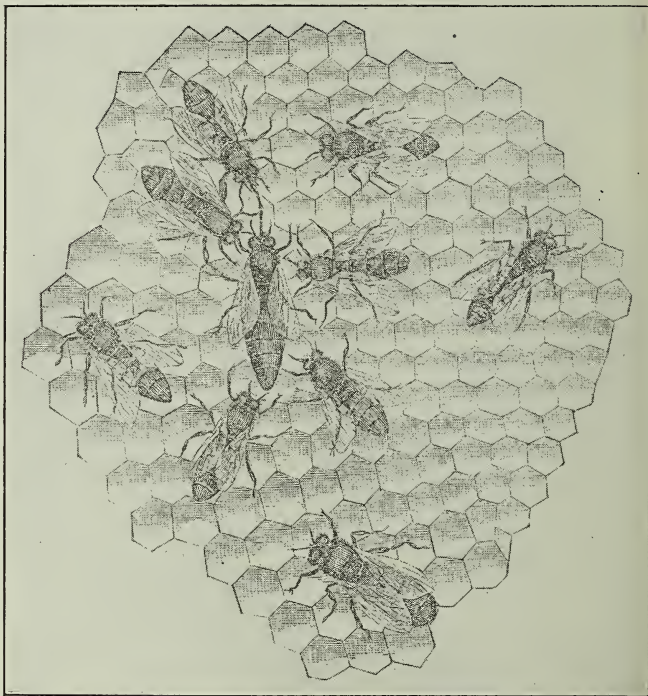


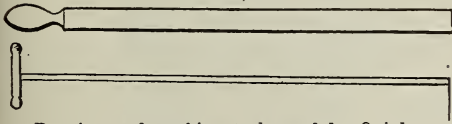
FIG. 5.—Queen, drone, and workers. This exceedingly accurate drawing was made 50 years ago by Mr. Quinby's daughter, who afterward became the wife of L. C. Root. The illustration was used in the 1865 edition of the book, and has been very widely copied. See article by P. H. Elwood, page 281.

bees by fear of being stung. Smoke had been used in various crude ways; but he knew that, if it could be easily and conveniently adapted, it would be a great boon, especially to the amateur. His invention of the bee-smoker did this, being so arranged with upright bellows and fire-tube as to burn standing upright, but to go out when placed on the side, and to be easily manipulated with one hand. The principle of it has never been improved upon.

New York state where Mr. Quinby's in-

fluence was most in evidence, became the largest honey-producing center in the world. One of the first articles he ever wrote on bees for publication was for a Philadelphia paper, expressing doubts as to the possibility of a writer having secured a gain of twenty pounds of honey from a swarm in two weeks. In these later days he had seen that amount gathered in two days, and five hundred pounds of extracted honey taken from one colony in a season. Mr. Quinby sent in these days from five thousand to thirty thousand pounds of honey to the New York market annually.

While essentially a scientist and teacher, his first object was to enable others as well as himself to make beekeeping a commercial success by knowing how to gather in quantity this useful, natural food-stuff and delicacy. As Mr. Quinby became well known from his books and articles in agricultural papers, his home was quite a center for those seeking the information he so gladly imparted. Mr. Quinby was never so happy as when passing on his knowledge and experience to others. Few people who were not personally acquainted with him can realize how devoted he was to his questioners, whether in person or by mail or through the press. From the start to the last evening of his earth life he never proved a principle in bee culture the benefit of which he did not give to the public. Two hours before he passed away he was at his desk, where he left an unfinished article.



Pruning and grafting tools used by Quinby.

The late Captain J. E. Hetherington was one of his most energetic pupils. It is still a joy to me to recall his enthusiasm during his frequent visits to Mr. Quinby's home, and the eager way in which he asked questions and received answers. He soon became one of the large bee-owners, first of box hives, but, as improvements followed, always up to date. Of these early visitors, almost the only one living is P. H. Elwood, of Starkville, New York, then as now the intelligent, thoughtful worker and genial friend.

In 1865 Mr. Quinby published a revised edition of his book, and from the tone of the preface it is gratifying to see his pleasure in the success and popularity of this first edition.

In March, 1870, the Northeastern Beekeepers' Association was organized at Al-

bany, with Mr. Quinby as its first president, an office he held for five years, declining re-election at the meeting preceding his death. He was elected president of the North American Beekeepers' Association, at Cleveland, in 1871, and served one year.

Thus with modest honors and much satisfaction in his work and in the fruit-growing on his place, a happy home life and wide outside interests in the anti-slavery cause, temperance work, and all good and progressive endeavors, the years went by. Death came suddenly on the night of May 27, 1875, and a life of usefulness was over. To quote from obituaries printed soon after: Mr. J. H. Nellis, of Canajoharie, New York, said in the *American Bee Journal*, June, 1875:

Long may we remember the unassuming, pleasant, hearty manner of the man whom we respected as a father! Indeed, his cheerful service of time, money, and hospitality to those who wrote to him or visited him from curiosity or to learn all they could from him, without returning even a word of thanks, was, to others more selfish, a matter of much surprise.

Our feeble words fail to express the deep appreciation which we had of Mr. Quinby. We consider him the most successful founder of modern bee culture in America, and a man of unswerving conscientiousness, truth, and purity.

In short, we sum him up as a deep, progressive thinker, a real philosopher, and a genuine philanthropist, who should long be held in grateful remembrance by the American people.

Captain J. E. Hetherington, in his presidential address before the Northeastern Beekeepers' convention, at the meeting following Mr. Quinby's death, summed up his character as follows:

His life has been in every sense a life of usefulness, and not wholly devoted to the interests of bee culture, for he took a living interest in any movement he thought would benefit society; and as an advocate and helper in the temperance work he did no mean service.

He possessed true kindness of heart, and regarded it a religious duty to make all better and happier with whom he came in contact, and regarded that life a failure that did not leave the world the better for having lived.

I am writing this article with the extreme desire to show Mr. Quinby's devotion to his chosen calling. It would be impossible for any one who did not come in daily contact with him in his manipulations of bees, in the beekeepers' conventions, and, most of all, in his home, to have a full appreciation of how completely his work filled his thoughts. How well I remember the emphasis he gave the words when he once said to me, "I want it distinctly understood that I cannot afford to spend my time making money!"

He gave forty-seven years of constant application in honest effort to place beekeeping on a firm business basis. I am

somewhat acquainted with the history of the beekeeping of the past, and I feel justified in pointing with pride to these forty-

seven years of devotion which should warrant the name of "Father of practical commercial beekeeping in America."

UNCLE QUINBY IN THE OLD DAYS

BY HIS NEPHEW, T. S. UNDERHILL

In calling up early boyhood remembrance of Uncle Quinby I make note of a few distinctive features of intimate social or family characteristics which were of a cordial, happy nature, such as playing the flute, his military outfit as captain of militia, and particularly his quaint sayings and axioms for which he was noted, such as: "Subdue your appetites and you conquer human nature;" "What you get for nothing is apt to be mighty expensive;" "When a man boasts of acting disinterestedly, it's safe to say he has an ax to grind;" "The lucky man is one who locks the door before the horse is stolen." One time, when, boy-like, I was proudly sporting a finger-ring, he said, "Tommy, I have always noticed that pigs that have to root for a living don't want to be rung."

His helpfulness and wise counsel were widely recognized. To us boys he was undoubted authority and an impartial judge. I well remember the early rural home in the town of Cossackie, New York, where the Quinby residence was on a hill that we called "Honey Hill," in contradistinction from the valley called "Honey Hollow," of which the creek fed the mill-dam pond at the foot of the hill. This early remembrance dates from about 1840, when I was five years old—at least before my school age, as I would go with an older brother on his way to school and spend the day at Uncle Quinby's. This boyhood association with Uncle Quinby was maintained all through youth and early manhood. I remember the milldam, the water-wheel, and the turning-lathe in his cabinet-shop were the wonder and delight of my boyhood days. A day at Uncle Quinby's was a rare treat. "Honey Hill" was a veritable garden of Eden, paths bordered with flowers and fruits in abundance, and the bread and honey was, perhaps, best of all.

The most prominent recollection of the early beekeeping days, before and up to the time of publishing the first edition of "Mysteries of Beekeeping Explained," was the great attraction of his observatory hives, common box hives with glass sides and wood shutters. There is where his first study of the habits of the bee commenced.

I remember it was my delight to watch these inspections, his showing me the bees at work, and pointing out the different kinds of bees, especially the queen, and explaining the head of the colony was a queen and not a king as it was usually called in those days. He showed the different cells, particularly the queen-cell, with its wonderful history of construction, and told that at its completion and maturity the young queen would make a piping sound, which would foretell a coming swarm, and then we would, at evening time, listen for the signal at a hive that showed indications of swarming. Sure enough, next day the swarm would come forth, the mother queen with them. This we knew from the fact that I had seen Uncle Quinby catch her in a tumbler as she came out; and wherever he placed her the swarm would alight. These observations and experiments are still fresh in my memory, and in a measure will show the difficulties that attended this early research in those primitive days of beekeeping. From these primitive methods was evolved not only the nature and habits of the honeybee, but the successful practical management of bee culture for producing honey in quantity in marketable form.

This led to the larger field of operation in the Mohawk Valley from 1853 to 1859, during which time I was associated with Uncle Quinby in the management of a number of apiaries in Montgomery and adjoining counties.

In these old box-hive days, the fire and brimstone period of beekeeping, the development of the honey-box was as follows: First: surplus honey in wooden boxes from the top of the hive; next, two 6 x 12 boxes with glass on four sides, under one cover; then four boxes, 6 x 6; after which six boxes, 4 x 6, under the same wooden cover. This was the method employed in securing surplus honey up to 1859, when my connection with the business ceased.

This was the evolution I saw develop under the guidance and direction of Uncle Quinby, whose standard of life was of the highest order, and whose bequest of practical beekeeping was excelled only by his exemplary character, honesty, and integrity.

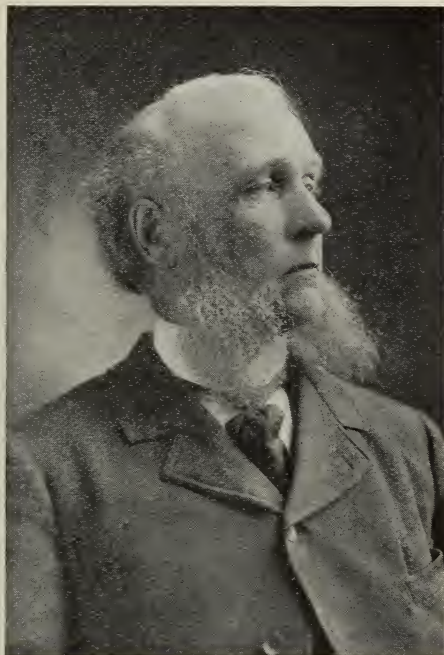
MOSES QUINBY—A TRIBUTE TO HIS MEMORY

BY P. H. ELWOOD*

Read before the Northeastern Beekeepers' Association, February 3, 1876.

In the history of every profession or occupation we find the names of a few who have outstripped all competitors—men possessed of that rare gift, power of original thought; pioneers who have explored an unknown wilderness, and mapped it for future possessors. In the history of bee culture there are four names that stand out prominently beyond all others: Huber, Dzierzon, Langstroth, and Quinby. Huber, the blind apiarian, who, by his great ability and untiring perseverance, discovered more of the interior workings of the beehive than any other man who ever lived; Dzierzon, the Quinby of Germany, who confirmed the wonderful discoveries of Huber, and added that equally wonderful one of parthenogenesis; Langstroth, our own countryman, inventor of the movable-comb hive (without which there would be no occasion for gatherings like this), and author of a work on beekeeping that, for scientific accuracy and beauty of expression, is not only unsurpassed but almost unsurpassable; and last, but not least, our own Quinby, inventor of the

beekeeping to the dignity of a pursuit among men, and he performed his work well. Beekeeping as a specialty will date from his time; and if Huber has earned the title of "Prince of Apiarians," certainly Mr. Quinby is entitled to that of Father of



P. H. Elwood, Fort Plains, N. Y. One of the numerous successful students of Quinby.



Moses Quinby

bellows smoker, who, adding largely to the knowledge of his predecessors, combined the whole into a system of practical management unequalled in simplicity and feasibility.

Mr. Quinby's lifework was to elevate

Practical Bee Culture. He sowed that we may reap. He labored without reward—often, indeed, without an appreciative public. Now that he is gone, beekeepers will miss his counsels, and think more highly of his work.

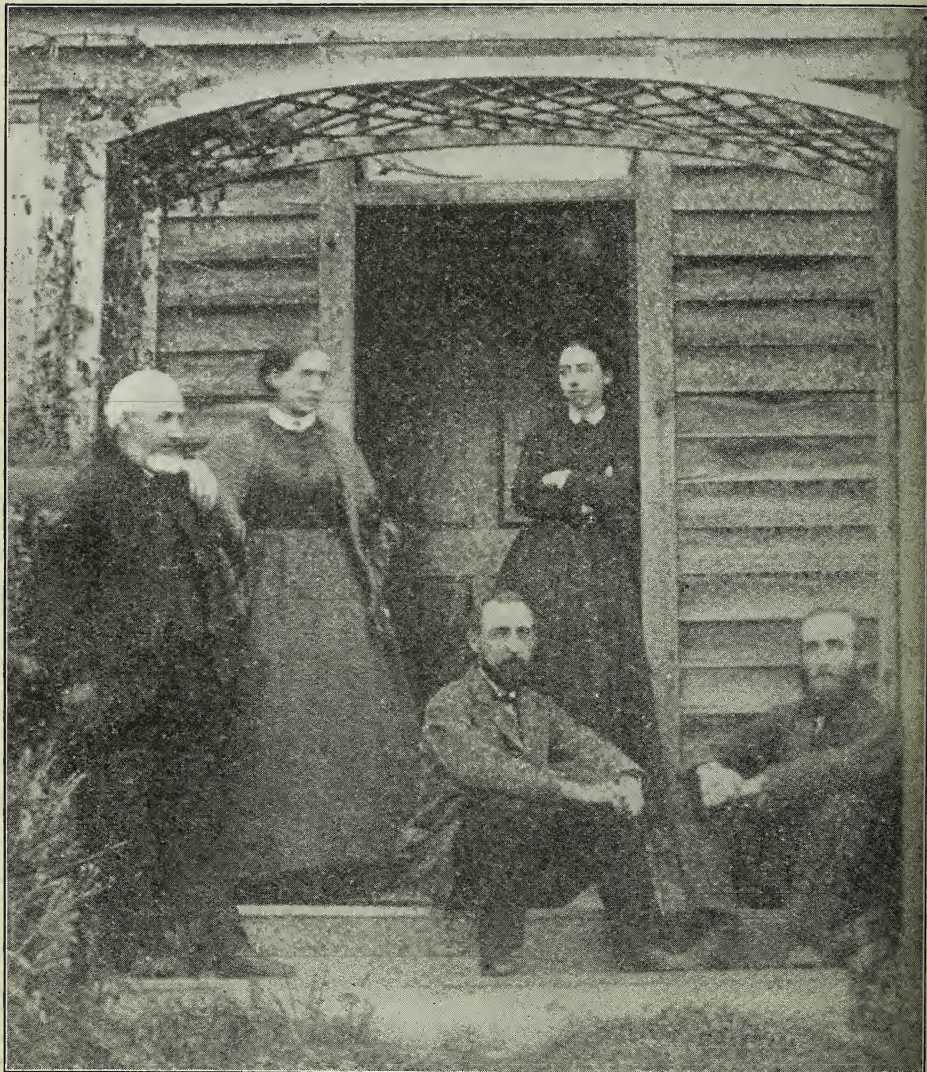
While he was anxious that the millions of pounds of honey now lost might be gathered, he had no fear of an overstocked market, and often narrated the history of the cheese trade as an illustration, saying that, while this industry was in its infancy, prices were lower than at present, and that the market was really in more danger of being overstocked than now, as the facilities for disposing of the product of the dairy have increased faster than the production. The

* See prenote to Mr. Elwood's further article, page 281.

history of this business he thought would be the history of ours. There may be temporary gluts in this market, as there are in all others; but these will be, not because more is produced than can be consumed, but because the facilities for handling the crop are undeveloped. Our greatest enemy to-day (outside of those who sell glucose for honey and paraffin for beeswax) is the old-fogy beekeeper who brings his honey to market in the most unattractive and undesirable packages. A small quantity of his honey will supply a large town, and the

prices he establishes often prevent the introduction of better goods. It is to our pecuniary interest to make better beekeepers of such men. Yet while Mr. Quinby was doing just this work, very many beekeepers thought him to be seriously injuring their business, and were for ever crying out, "My occupation is gone!"

High as Mr. Quinby ranked as an apiarian, he stood still higher as a man. We who were accustomed to gather at his fireside can never forget his wholesome hospitality. He was a true gentleman, unfettered by the



Moses Quinby and family. This picture of Mr. Quinby is probably one of the last taken, if not *the* last. See the further article by Mr. Elwood, page 281.

stifling conventionalities of modern life. He was always the same, always having a hearty welcome for his friends and a pleasant word for every one. True to his Quaker education, he was an intense hater of shams, especially of the human kind.

He was honest—a characteristic that is getting to be as scarce as it is valuable. There is no principle in business better established than that "honesty is the best policy." Mr. Quinby, unlike most men, was honest from principle.

The mental rather than the motive temperament predominated in him; that is, surplus vitality would more naturally develop into extra mental work than into intense muscular activity. He was a thinker, an investigator; an originator rather than an imitator. He was calm and deliberate, not excitable; did not plan one minute to execute the next and destroy the following. As he viewed a subject from many standpoints he was not quick in forming conclusions. In quickness he could not keep pace with many who were of lighter caliber than himself. Muskets sometimes hang fire, but big cannon are not usually handled with the rapidity of small arms.

While not easily disturbed in temper, he was not tame in spirit when he had just cause for indignation. He had a very modest opinion of himself, and in measuring others did not set himself up as the standard of perfection.

His last years were his best. His best and most enduring work was done after he was sixty years old. His famous assertion

then made, and so ably defended, that cold usually kills the bees, has never been successfully contradicted. He never wrote so well as in the latter years of his life. He continued to improve in both subject matter and manner of expression. His bodily powers were gradually failing him, but his reasoning faculties were never so keen as in the last five years of his life.

With more of the elements of the politician about him he would have ranked higher in life, but his reputation would not have been so enduring. Now his merits are just beginning to be appreciated.

How fitting that a life so calm and pure should have so peaceful an ending! On the 27th of May last he retired at his usual hour in seeming good health and spirits. Before the hour of midnight, without awaking from his slumbers, he quietly passed from time into eternity. Thus, at the age of sixty-five, ended the life work of our counselor, friend, and public benefactor. He was more fortunate than the most of men, for he was able to take with him his most valued possession, the hard-earned accumulation of a lifetime—a noble character.

So live that, when thy summons comes to join
The innumerable caravan that moves
To the pale realms of shade, where each shall take
His chamber in the silent halls of death,
Thou go not, like the quarry-slave at night,
Scourged to his dungeon, but, sustained and soothed
By an unfaltering trust, approach thy grave
Like one who wraps the drapery of his couch
About him and lies down to pleasant dreams.

Starkville, N. Y.

MOSES QUINBY, THE FOUNDER OF COMMERCIAL BEEKEEPING IN AMERICA

BY ARTHUR C. MILLER

Moses Quinby was a pioneer beekeeper. In 1828 he plunged into the wilderness of bee-life with no other knowledge than how to sulphur bees and a few directions about hiving swarms. Without veil or smoker, with black bees in box hives, he worked and won. Not until he had kept bees some years did he see any text-books, and these were imported ones containing little or nothing of value but what he had already found out. Their errors and mistakes were to him an incentive to further research and closer observation. In the preface to his book he says:

It is folly to expect success in beekeeping for any length of time without a correct knowledge of their nature and instincts; and this we shall never obtain by the course hitherto pursued. As much of their labor is performed in the dark, and difficult to be

observed, it has given rise to conjecture and false reasoning, leading to false conclusions.

When I say a thing is so or say it is not so, what evidence has the reader that it is proved or demonstrated? My mere assertions are not expected to be taken in preference to another's. Of such proof we have more than enough. Most people have not the time, patience, nor ability to sit down quietly with close observation and investigate the subject thoroughly. Hence it has been found easier to receive error for truth than to make the exertion necessary to confute it—the more so because there is no guide to direct the investigation. I shall, therefore, pursue a different course; and for every assertion endeavor to give a test that the reader may apply and satisfy himself, and trust to no one. As for theories, I shall try to keep them separate from facts, and offer such evidence as I have, either for or against them.

And he did. Every thing must be tested and proved, no guesswork was allowed, and his genius in devising ways to discover the

secrets and actions of bees was wonderful. Nothing was too minute to receive his consideration. His analysis of observed conditions and reasoning back from them to the causes has not been surpassed.

But every thing was done with one end in view—efficiency in his work. Simplicity of apparatus was his constant effort, and in his writings we find frequent reference to costs and profits.

He was making money from his bees while most of the rest of the beekeeping world was trying to learn how to retain any bees at all. The wax-moth was the bane of their existence, while to him it was merely an incentive to keep all stocks strong and to do better beekeeping. The moth was to him an annoyance rather than a menace.

It was not until he had been keeping bees for many years that he had any other smoking-device than the pan of burning tinder on the roll of smoking rags, and then he devised the tube "pipe," later described and illustrated by Alley. This device was a tin tube five to six inches long and half an inch or more in diameter, with a conical wooden plug in one end and a pipestem-shaped plug in the other, both with a hole lengthwise through them. This was filled with tobacco, and held in the teeth when at work, the breath being blown out through it instead of drawn in.

It was years later when he invented the bellows smoker which is now such a necessity to all of us.

A bee-veil he knew nothing of until about 1858, previously using a handkerchief over the back of his head and neck when bees were particularly troublesome. At that time he learned of the wire-cloth protection described by Langstroth, and from it evolved the style now sold under the name of "Alexander," but later Mr. Quinby improved it greatly.

American foul brood he encountered about 1833. He traced its spread to infected honey, and originated the "driving" plan of treatment, of late years called the "Me-Evoy" or "shake-off" plan, but really Quinby's. Also he speaks of Italians resisting the disease better than blacks.

Quinby was observing, analytical, and resourceful, somewhat impatient with the baseless whims and practices of others; but this attitude was tempered by a kind heart, and with a quiet sense of humor which constantly crops out in his writings.

Here are a few of the very many good things he has said, picked at random here and there, to illustrate his views, the difficulties he labored under, and the way he surmounted them.

He suggested the use of tobacco smoke in the cellar to quiet uneasy bees when taking them out.

As a pollen substitute, he used rye and buckwheat meal or flour mixed with sawdust, and fed on a floor a few feet square with a rim around it, and put on only a few quarts of flour. Those of us experienced in using pollen substitutes will at once see the reasons for and the soundness of his instructions.

Of buying bees he said, "The heaviest hives are not often the best." In writing of preparing bees for winter he says:

There is almost as much diversity of opinion with respect to wintering bees as in the construction of hives, and about as difficult to reconcile.

Excessively large colonies are unprofitable, as well as too small. Avoid extremes.

Also:

A first-rate stock may be wintered with very little care in almost any situation; but those of second and third rate require some special attention.

That is a fact worth remembering when we are considering winter cases, etc.

His methods of freeing supers of bees were almost identical with those used by Dr. Miller. They must be good when two such men use them in commercial work. In the days of box hives he writes:

But what kind of hive shall be made? In answer some less than a thousand forms have been given. The advantages of beekeeping depend as much upon the construction of hives as any one thing; yet there is no subject pertaining to them on which there is such a variety of opinions, and I have but little hopes of reconciling all these conflicting views, opinions, prejudices, and interests.

Of the cost and value of combs he says:

One important item should be considered in this matter by those who are so eager for new combs. It is doubtful whether one in 500 ever thought of the expense of renewing comb. I find it estimated by one writer that twenty-five pounds of honey was consumed in elaborating about half a pound of wax. This, without doubt, is an overestimate, but no one will deny that some is used. I am satisfied of this much, from actual experience, that every time the bees have to renew their brood-combs in a hive they would make from ten to twenty-five pounds in boxes; hence I infer that their time can be more profitably employed than in constructing brood-combs every year.

Non-swarming hives he placed no reliance in, for he says:

Further, these non-swarmers are not always to be depended upon as such. They will sometimes throw off swarms when there is abundant room in the hive as well as in the boxes.

But if such hive is only half full, or 2000 inches, it is very common for them to swarm without adding any new comb—proving very conclusively that a hive that size is sufficient for all their wants in the breeding season. When about 1200 inches only had been filled the first year, I have known them to add combs until they had filled about 1800, and then cast a swarm, proving also that a little less than 2000 will do for breeding.

Eighteen hundred cubic inches is close to the comb content of ten L. combs.

Listen to this on bees moving eggs and signs of queenlessness:

During the spring months, in medium and small families, where the bees can protect with animal heat but a few combs, I have often found cells containing a plurality of eggs—two, three, and occasionally four, in a single cell. These supernumeraries must be removed, and frequently may be found amongst the dust on the bottom-board.

If you have a hive that you suspect has lost a queen at this season, her presence can be ascertained nine times in ten by this method. Sweep off the board clean, and look the next day or two after for these eggs. Take care that ants and mice have no chance to get them. They might deceive you, being as fond of eggs for breakfast as any one. When one or more are found, or any immature bees, it is sufficient; no further proof of the presence of a queen is needed.

The public of his day had many of the same prejudices and animosities as that of to-day. Among the notions was the belief in loss to crops through the nectar taken by the bees. He met it by the same answers that we do.

Of the sagacity of bees he writes:

On this subject I have but little to say, as I have failed to discover any thing uncommonly remarkable, separate, and distinct in one swarm that another would not exhibit. I have found one swarm, guided alone by instinct, doing just what another would under the same circumstances.

Then he proceeds to cite many of their wonderful acts, which, by the way, they do in exactly the same way to-day, and concludes by saying:

I have mentioned these to show that a course of action called forth by the peculiar situation of one family would be copied by another in a similar emergency, without being aware of its ever being done before. Were I engaged in a work of fiction, I might let fancy reign and endeavor to amuse, but this is not the object. Let us endeavor then to be content with truth, and not murmur with its reality. When we take a survey of the astonishing regularity with which they construct their combs without a teacher, and remember that the waxen material is formed in the rings of their body—that for the first time in life, without an experienced leader's direc-

tion, they apply a claw to detach it, that they go forth to the fields and gather stores unbidden by a tyrant's mandate, and throughout the whole cycle of their operations one law and power governs. Whoever would seek mind as the directing power must look beyond the sensorium of the bee for the source of all we behold in them.

Here is his statement concerning Langstroth's book and hive, written after he had used the hive for a couple of years:

Unexpectedly, I think I have found a hive superior, in many respects, to the simple box. It is not pretended that a swarm of bees located in it will store a greater amount of honey in a given time; but the advantages are in the control of their operations, and knowing their condition at all times.

From this he soon went entirely into the use of frame hives, modifying them in size and shape to meet his own ideas, saying:

It is not very likely we have got the best form of the hive. I have one quite different from Mr. Langstroth's, the patentee; but whether it is better is for others to decide. I can only say that I am suited with it better than with his. A few will like mine because I do; others, his because he recommends it. I have not the least objection to any one's improving it or using it as either of us does. There is not the least doubt in my mind that whoever realizes the greatest possible benefits from his bees will have to retain the movable combs in some form. The principle (movable combs) can hardly be dispensed with.

The more we read Quinby's writings, the more we admire and like him. Had his work been given the same publicity as Langstroth's, it is difficult to doubt that commercial beekeeping would now be far ahead of what it is. Quinby was a great pioneer, and to-day his book is as good and as valuable as ever. It is one of the classics of bee culture, and no beekeeper can rightly feel well posted in the art until it has been read.

To Quinby the beekeepers owe a great debt, and of him we can truly say the world is better for his having lived.

Providence, R. I.

A DAY WITH M. QUINBY

BY J. E. CRANE

It was in the autumn of 1869 that I spent a day with M. Quinby. A year or two before I had bought several hives of Italian bees of him, including a real imported queen, paying \$20 for her. More than this, I had read and reread "Mysteries of Beekeeping Explained." In fact, I had studied it until I almost knew it by heart. The old book, as I look at it now, appears to be pretty well worn out. I believe most earnestly the words found in the preface of this book, "The simplest directions of a reliable practical beekeeper who studies the science with an honest enthusiasm are invaluable to the tyro in apiarian knowledge." I be-

lieved the principles laid down in his book were the sure foundations of success if faithfully followed. More, I believed Mr. Quinby the largest or most experienced and successful beekeeper in the United States.

The season had been a good one with me, with a good crop of honey secured by following the directions given in "Beekeeping Explained." How better could I spend some of the money the bees had brought me than by visiting this prince of beekeepers?

It was late September or early October when I went to Troy, stopping over night and completing the journey the next morning, that I might have a full day with him

at St. Johnsville. The name of that town still has a charm for me, different from any other on the face of the whole earth.

Leaving the train at the station I soon found the unpretentious home of Moses Quinby, and introduced myself to him as well as my embarrassment would permit. I found him, with the assistance of L. C. Root, engaged in the somewhat prosaic work of feeding bees. His method of feeding was quite different from any thing I had ever heard of, and I will give it.

One or more combs were laid down flat in a tank, and sugar syrup or honey poured upon them from above in such a way as to fill the cells. Then the combs were turned over and the other side filled. After the surface honey had drained off they were given to the bees in exchange for empty ones, and the job completed at once. I have used this method several times in early spring when I had no combs of honey to give to colonies short of stores. This season had been a very poor one in that part of New York. Mr. L. C. Root told me at that time that not a single wild colony would survive the following winter, and, as a consequence, there would be no difficulty in rearing purely mated Italian queens.

I was invited to take dinner with his family, and was duly introduced to Mrs. Quinby and a daughter. There was one thing that puzzled me; and that was to determine the relationship of L. C. Root to the family. Was he just a helper, or was he a son-in-law to Mr. Quinby? I had never heard of him before. I thought it would not be quite the thing to inquire, and so the puzzle remained; but of one thing I felt sure—that if he was not a son-in-law he was likely to become one at an early date.

To the east of the Quinby home the ground rose quite steep from the Mohawk Valley, and the ground had been terraced and set to grapes, which were then ripening.* After dinner Mr. Quinby went out with a large basket on his arm to gather grapes for an hour or two. This gave me an opportunity to visit with him without interruption, and I appreciated it most fully. I told him of the extractor I had made, and with which I had secured 240

lbs. of honey during the preceding summer from one colony. He told me of making one himself, using the gearing of an old fanning-mill for his extractor, and showed me a part of it; but the season had been so poor he had not used it.

He told me of a young friend of his who, he thought, had met with unusual success, and urged me to visit him. I thought I could not at that time, but did later, and found him to be none other than Capt. J. E. Hetherington. He told me also of his brother, D. W. Quinby, of New York, who was a commission merchant, and to whom it was safe to consign honey for sale, and to whom later I shipped many tons of honey.

The latter part of the afternoon, he with Mr. L. C. Root went over a lot of small nucleus hives, looking for young laying queens. I noticed that he used no smoke, and seemed to get along very well—rather better than Mr. Root did.

The impression Mr. Quinby left on my mind was that of a kindly, elderly man, not as talkative as some beekeepers I have known, but all he said was to the point, and had weight. He seemed glad to help a beginner in beekeeping—glad to let his light shine rather than to cover up what he had learned lest others should profit by it, although he made no display of his superior knowledge and experience.

That Mr. Quinby laid the foundations broad and deep for practical beekeeping on an extensive scale there can be no doubt. He cleared away the fogs and mists of ignorance that hung over the mysteries of the hive, by his own investigations and experience.

The younger generation of beekeepers have no conception of the ignorance of the average beekeeper sixty years ago. Fulton's Clermont, that steamed proudly up the Hudson over a hundred years ago, at the rate of five miles an hour, would not, doubtless, serve as a perfect model for a modern liner; but the success of this experiment laid the foundation of navigation by steam. The progress of beekeeping has gone forward from similar humble beginnings.

Middlebury, Vt.

LANGSTROTH AND QUINBY COLABORERS IN PIONEER BEEKEEPING

BY W. P. ROOT

I trust I shall not be making the personal equation too prominent when I say that very few persons, even among practical

beekeepers, have more keenly enjoyed for thirty years an opportunity to witness the development of an idea or system which once engrossed the attention of the man

* See Fig. 2, page 268.

whose memory is recalled in this issue. I have read all of his writings carefully, especially his "Mysteries of Beekeeping," and rejoiced to note how

He scattered the hosts
Of hobgoblins and ghosts

till the word "mysteries" became almost a joke. But while I speak of him I do not forget Langstroth, for to do so is to read Romeo without Juliet.

I have no patience with comparisons of some men with others as to their work done for humanity. It reminds me of what our old friend E. E. Hasty once wrote me. He said he had studied for years to find out which one of his shear-blades does the cutting. They work together by working against each other. The physical features of men may be compared, but there comparison ceases.

To carry out some great work, it is clear that Providence has designed at least two persons to do it. This was the case with Quinby and Langstroth, and yet each worked long at the same task without being aware of their partnership. These two men were born the same year, and their early years permitted none of the luxuries and few of the conveniences of modern life.

It commands our admiration when we see a man like Mr. Quinby rising up from the degrading superstitions of his time, brushing away so much of the fog that surrounded him, and getting down to a rational explanation of things by assuming that regularity prevails in God's works.

Mr. Langstroth's invention was beginning to be felt in the world when Mr. Quinby also was startling the commercial world by doing with bees what he himself thought he had shown in print could not be done—yes, doing it seven times over. But his remarkable success (seldom surpassed to-day) arose from his knowledge of the habits of the bee and a close study of the conditions that induce bee diseases and the causes that will check them. His fame had reached Ohio,

and it is not to be wondered at that Langstroth felt that "he must increase, but I must decrease." Filled with annoying surmises, unworthy suspicions, and harassing fears, Mr. Langstroth happened to be here at A. I. Root's home when this evil spirit haunted him the worst. Mr. Root has described how Mr. L. told him one morning his watch had said all night, "Quinby, Quinby, Quinby," adding that he was about to start for Mr. Quinby's home and have a settlement. It was a question whether the prevailing spirit would lead them to shake hands together or shake fists at each other. But the result was a perfect understanding, cementing a close friendship during the short period of life that remained to Mr. Quinby, Mr. Langstroth living twenty years longer.

The fact was, Langstroth had been engaged in perfecting a home for the bees while Quinby had been studying their individual habits, although in this latter respect Langstroth was the peer of anybody at that time. The distinctive lifework of each dovetailed together so nicely with that of the other that modern apiculture has grown up around their inventions as the honey-suckle does around a pole.

Quinby was not slow to adopt movable frames, as he immediately saw their advantage; and if he could have seen by revelation the implements now in use for extracting, etc., he would have said, "The half has not been told."

Although Mr. Quinby said he considered life to be too short to be spent in making money, it is said he amassed at least a comfortable competence, while Mr. Langstroth's inventions and discoveries never yielded him enough for even a support.

But aside from the inestimable benefits conferred on humanity by the labors of these men among bees, we owe them still greater honor for the beauty of the lives they led in their individual capacity; for in all they did they "looked through nature up to nature's God."

A BEEKEEPER'S FEELINGS TOWARD MOSES QUINBY

BY LEWIS L. WINSHIP

No man has done more for the beekeeping fraternity at large than Moses Quinby. He began keeping bees when only nineteen, and, until his death at the age of sixty-five, was actively engaged in trying to help beekeepers. He had only one equal in the United States, and that was Langstroth, to whom was given the honor of inventing the movable-comb hive. What difficulties must

those early beekeepers have passed through! When Quinby first began beekeeping, the old box hive was still in vogue; and when one wished to take off honey the bees must of necessity be smoked with brimstone, as at that early date such a thing as a movable-comb hive had not been thought of. What would the present-day beekeepers do without comb foundation, smokers, and a



La Manda Park, Cal., field meeting at the apiary of F. M. Stone.

hundred and one other very useful articles which make up a beekeeper's world?

These articles are to the beekeeper of the present day what tools are to a carpenter. But in Quinby's day no articles to further the work of the bee were to be had. This made it all the harder for him, a lad of nineteen, to make a success of his chosen profession.

Quinby (unlike many inventors) was not a rich man. He was trying to improve conditions and methods then in vogue in regard to the management of bees. When he invented some article which he thought of value to beekeepers, he gave it directly to them, and did not rush off at once to patent it. Some may call this poor management on his part, and doubtless he would have been a richer man had he patented some of his inventions. But, nevertheless, if Quinby had been as

narrow-minded as some people of his time we should be without many things to-day which have helped further the beekeeper's cause.

I have a copy of "Quinby's Beekeeping" which was published in 1866, and find many articles in it which are worth reading in 1915. This book was published nearly half a century ago, and since that time beekeeping has been nearly revolutionized. Even so, when I have the time, I read the book through, and hardly a year passes but that



F. M. Stone's apiary, La Manda Park, Cal. Geese keep the grass down.

I read it through from one to three times. The book seems to become more interesting every time it is read, in that it is a man's real experience and not written merely for pay. I wish every beekeeper in the land could have a copy, and I can guarantee that they would be more than pleased with one.

In conclusion, let us all hope that another man like Quinby will help beekeepers as

much as he did. I know of only one monstrous invention yet to be thrust upon the world—artificial comb honey. Let us hope that some one will invent this and claim the \$1000 reward now offered by the A. I. Root Co. for the manufacture of a single section of comb honey which so closely resembles the original as to deceive the average person.

Springville, N. Y.

MOSES QUINBY

BY P. H. ELWOOD

When Mr. Elwood sent the photograph showing Mr. Quinby and his family, page 274, he enclosed a copy of an address that he delivered in 1876, saying that he would send a further article in a few days. As it was already late we feared that the article might not reach us in time, therefore we decided to use the address, to be on the safe side. The following article came just in time to be used in this number.—
Ed.

Whoever finds it difficult to obey the command "Love thy neighbor as thyself" may turn to the life of Moses Quinby for inspiration and example. The ruling passion of his life, inspired by a true brotherly love, was the betterment of others; and no estimate of his character can do him justice that does not fully recognize his life-long devotion to his fellow-man. He was possessed of the missionary spirit and was found in the front rank of any undertaking that promised to elevate mankind. In material things beekeeping was his theme; and for many years much of his time was spent gratuitously for the instruction of beekeepers, not only in the bee and agricultural journals, but in his modest St. Johnsville home, which might appropriately have been named the Quinby School of Apiculture, with classes for all grades. Captain Hetherington says, "Twice I was at his home in June, when I found there three from a distance to whom he was imparting instruction; in fact, his house was quite a hotel most of the time, with this difference—you could get no grog, neither could you pay a bill except by imparting to and helping others in the same generous spirit.

Not all, however, were willing to pay in this way. One man who came and stayed, and was particularly anxious to get all information that would be of help to him, said, when ready to go, "My neighbors will want to find out all I learned down here, but I won't tell them a thing. They won't be willing to pay a cent for it." Here the seed sown by a generous hand surely fell upon stony ground. The man, however, represented only a few of his visitors, nearly all of whom were appreciative, and

many of whom were leading men in bee culture, able and willing to give valuable ideas in exchange for the ripened experience of Mr. Quinby.

When Mr. Quinby commenced beekeeping bees were kept in box hives, and honey-getting was by the brimstone-pit, a murderous way unknown to many beekeepers of to-day, but so well described by the poet that it is given here.

Ah! see where, robbed and murdered in that pit,
Lies the still heaving hive, at evening snatched
Beneath the cloud of guilt-concealing night;
And, fixed o'er sulphur while not dreaming ill,
The happy people in their waxen cells
Sat tending public cares.
Sudden the dark, oppressive steam ascends,
And, used to milder scents, the tender race
By thousands tumble from their homied dome
Into a gulf of blue sulphurous flame.

—Thomson.

For the box hive he early substituted the movable-comb hive and glass surplus boxes. With these and the bellows smoker, which he originated, there was no longer need of the sulphur torch, for whatever honey was wanted could be taken without destroying or even angering the bees. Mr. Quinby unselfishly took no patent on his smoker, preferring to give his invention to his fellow-beekeepers, taking the high moral stand since taken by the medical profession, that any valuable discovery or invention made by any one belongs not to him alone who made it, but to all alike for the benefit of humanity. No invention is born perfect, and some of the improvements on the Quinby smoker have been valuable. One inventor took the Quinby smoker, and, cutting off the connecting tube between the bellows and fire-box half an inch or more, had this missing half-inch patented. Then, denying

Mr. Q. and other makers the privilege of using the patent, he commenced the manufacture of the unpatented Quinby smoker, but with this slight omission. Because this small change made the Quinby smoker more efficient in holding fire the cut-off became a necessity; and because the principal or basic ideas of the invention had not been patented by Mr. Quinby it became comparatively easy to appropriate these ideas belonging to the public, and establish a monopoly. He attached his own name to the smoker, and for many years advertised it as the "original bee-smoker." But all attempts to deprive Mr. Quinby of the credit of being the originator of the bellows smoker have failed to impress well-posted beekeepers; and we read on page 263 of the *A B C of Bee Culture*, 1895, these words: "It is to the credit of Moses Quinby for first giving us a bellows bee-smoker."

Taking the Huber hive as a basis he invented a closed-end standing-frame hive unequaled for wintering, springing, and moving bees; and some of us think it unsurpassed for other purposes.

As an inventor, however, his fame will rest on his invention of the bellows smoker, undeniably the most useful implement in the apiary.

A full account of Mr. Quinby's experiments, and many of them were difficult and expensive, would fill a volume. Forty odd years ago the writer was at his place when he was attempting to induce early brood-rearing before placing the bees on their summer stands. He had twenty colonies in a special repository kept at a summer temperature by artificial heat. This was before the invention of thermostats or heat-controlling devices; and one night a warm high wind arose that so increased the draft of the fire and the temperature of the room that the whole twenty colonies were killed. Yet so possessed was he of the investigating spirit that, to get definite results, he would have repeated the experiment had not his friends dissuaded him from attempting it with the means at his command. He was a careful observer, and his conclusions could usually be depended upon.

It is not too much to say that Mr. Quinby knew more about American foul brood and its treatment and cure than any other beekeeper who ever lived. More than half a century ago, while yet using box hives, he met this deadly disease, and, unaided, he vanquished it by the method that in recent years has strangely been known as the Mc-

Evoy plan. American foul brood, so far as now known, is a disease of the brood only, and was rightly called foul brood by Mr. Quinby.

We are able to give a picture of the Quinby family taken in front of their St. Johnsville home—Mr. and Mrs. Quinby, their son John W., their daughter Elizabeth, and their son-in-law, L. C. Root. Mr. Quinby died May 27, 1875, aged 65. Mrs. Quinby, known and highly esteemed by many beekeepers, outlived her husband 26 years, and died at the Root home in Stamford, Ct., in 1901. The son, Rev. John W. Quinby, was educated at Fairfield Seminary, Amherst College, and Harvard Divinity School, his education having been broken into by his service in the Civil War. Immediately after his graduation from the Divinity School he was installed as pastor of the Unitarian Church at Eastbridgewater, Mass., where he remained thirty years. He resigned while still in his prime, and while still doing most efficient work, because he was afraid he might stay until his usefulness was passed. He remained in the same town until he died, in 1911, in his 78th year. The daughter, Elizabeth Quinby, was married to Lyman C. Root in 1869, and they had two daughters—Dr. Stella Quinby Root, who, for the past eighteen years, has been in general practice in Stamford, Ct., and Kathryn Hildreth Root, who holds the responsible position of Supervisor of Home Economics in the Stamford public schools. Dr. Root is quite successful as a practitioner, and stands high in her profession as a skillful administrator of anaesthetics. Mrs. L. C. Root died in 1896 at the age of 59. She was a remarkable woman in many ways, and assisted her father and husband very materially in illustrating and rewriting their books. She was very skillful with her pencil, and many of the illustrations drawn directly from the object to be illustrated are from her hand. One in particular made in this way, the cut of bees and comb (see page 270), is regarded as one of the most accurate representations ever made, and has been widely copied in this and foreign countries.

Of the son-in-law, L. C. Root, nothing need be said to introduce him to the readers of *GLEANINGS*. As might be expected, both he and his daughters are widely identified with church and philanthropic work in Stamford. Mr. Root is well preserved, and now bids fair to rival Dr. Miller in longevity.

Starkville, N. Y.

THE QUINBY FEEDER

BY J. E. HAND

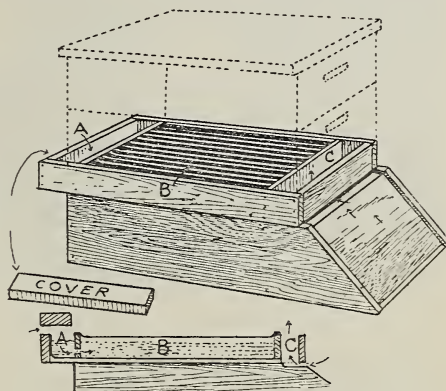
There have been so many requests for information regarding the Quinby feeder that we thought best to reprint a part of the article by Mr. Hand, which appeared in our Aug. 15th issue for 1907, page 1086. This feeder as used by Mr. Quinby sixty years ago is just as good now as it was then. Mr. Hand's description follows.—ED.

Perhaps the first thing to be considered in feeding back is the feeder. For several years we were handicapped in our operations because none of the feeders that were listed in any of the supply catalogs were of any account for the purpose, so we invented several of our own; and, although some of them were an improvement over the others, yet they were not entirely satisfactory.

Finally we found a feeder illustrated in "Mysteries in Beekeeping Explained" that was just what we wanted; and, although we have used it for more than ten years, we have not been able to improve it, and we are using it to-day just as Mr. Quinby did more than fifty years ago.

The feeder is a tin tray two inches deep, inclosed by a wooden frame of the same depth. The wooden frame is of the same width as the hive, and $2\frac{1}{2}$ inches longer, while the tin tray is the same length as the hive. This tray is pushed to the back end of the frame surrounding it, leaving a space of $2\frac{1}{2}$ inches in front for the bees to pass out and in the hive, and at the same time allows the tin tray to project beyond the hive at the back end for filling the feeders (see illustration). There is also a framework of slats, lengthwise of the feeder, and of the same depth, standing on edge about $\frac{3}{4}$ inch apart, for the bees to travel over while

working in the feeders, so that no bees will be drowned. The feeder rests square on the bottom-board, and the hive rests square on the feeder except the $2\frac{1}{2}$ inches at the back end, which is covered by a board. The



bees cannot get into the place where the feed is poured in, and the feed flows evenly under all parts of the hive, where it will be quickly taken up by the bees.

This feeder will hold six quarts; and after using it quite extensively for feeding back we do not hesitate to pronounce it by far the best one that has yet come to our notice, and we doubt if it can be improved.

HONEY AT THE PANAMA-CALIFORNIA EXPOSITION

Interesting Display in the San Joaquin Valley Building at San Diego

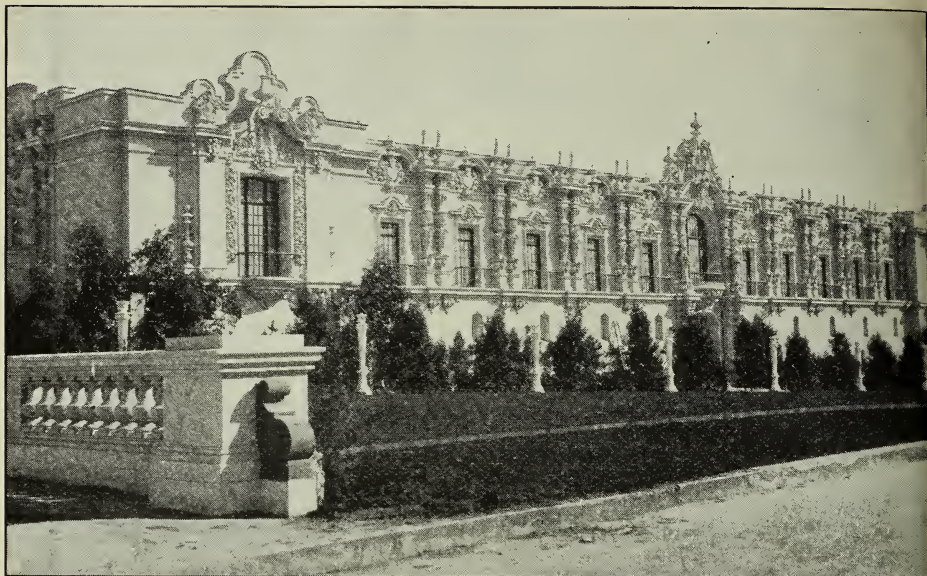
BY ALLEN HENRY WRIGHT

There is no doubt that many a blushing bride, on her wedding-trip, will declare the Panama-California Exposition, which opened in San Diego, California, on New Year's Day, "just too sweet for any thing," for it has many features which appeal to the romantic as well as the artistic, to the utilitarian as well as the amusing and interesting.

To beemen in particular, and to all those connected in any way with the great industry of making and marketing honey, there will be much of interest to be found in the building erected and filled by the eight counties of the San Joaquin Valley.

Here will be found a honey display, occupying a space about fifteen feet high by ten feet wide. At the top are the letters ALFALFA HONEY, each letter of which was used as a separate box, filled with artificial comb, and then placed in a hive, the bees doing the rest of the work of filling the comb with honey.

On either side of the display are panels containing pressed wild flowers, with bees above and about the blossoms. Combs of honey and jars of strained honey fill the spaces in the center and about the edges. All in all, the exhibit is one of the most pleasing and novel in the building, which contains hundreds of unique features.



San Joaquin Valley building at the Panama-California exposition, San Diego.

Elsewhere on the exposition grounds there is an exhibit of all kinds of equipment for the bee-culturist, including the latest de-

vices and paraphernalia for conducting the business on a paying scale.

San Diego, Cal.

THE OLD FOLK IN THE BEE HOME

BY J. E. JOHNSON

Since the writer of this article had a little success in beekeeping, his neighbors have become interested; and now within five miles of the original yard that started the fever there are as many as one thousand colonies. These friendly would-be beekeepers often drop in and talk shop. They are very much interested in fixtures. They talk hives and frames and smokers and supply-dealers, but there is not much disposition to talk bees. These good friends have been reminded time and again that success is not tied up in the subject of fixtures, great as is the importance of having fixtures right and standard.

Recently a new man in the bee business spent a whole week going over his yard examining his colonies and feeding nearly every one. He realizes now that this work should have been done last fall; but the bees had to be fed or would die, and so he kept on feeding with the temperature down to and below freezing.

How few beekeepers stop to think that all the bees are now old, and living in their declining years! Last October they were strong and young, able to do a woman's work, but now they are getting old and

feeble. Many of them have gray hairs, some are crippled up with the rheumatism, and hardly able to get about. But the family must be cared for. Water must be brought, and the home must be kept warm. And all this work must be done by these old people in the bee home. There is no young person about to hustle around early and do the roughest work.

With this idea in mind, how important it is to treat these old people in a way to make it as easy as possible on them! For the next few weeks they face the hardest battle of life. If they can hold together until the warm days come, then soon they will have help, but all the work must now fall upon their old shoulders.

If this idea could be well drilled into the young beekeeper's head he would not feed too much raw syrup to the old bees and make them work it over, and store it again in their combs. He would not require them to carry water half a mile. He would not ask them to stay in a hive where the roof was leaky, and air currents constantly cooling off the home.

Mt. Airy, N. C.

HOW FAR DO BEES FLY?

BY J. A. HEBERLE, B. S.

Much has been written about this subject. Opinions differ greatly, as might be expected, because the solution can be only an approximation. The distance varies with the season, the time of day, the temperature, and also with the plants that supply the nectar and pollen. It is influenced by the configuration of the surrounding country.

The editor of the *Western Honey Bee* says: "How far bees fly and store honey to a profit depends on two things: First, the plant they are to get it from; second, whether or not intervening plants have led the bees to the field." [G. M. Doolittle has said the same.—H.] He has seen the bees work on mesquite where the nearest bushes were a mile and a half, and the bulk of the yard seemed to be going about two miles, with the result that scales under an average hive showed nine pounds gain. [That would be a record around here.—H.] He further said bees will make a good gain from a good field of alfalfa a mile distant, and he would count on a good deal of surplus from one and a half miles. Three years ago one of his neighbors had a yard two miles from the only orchard that was sprayed, and the bees carried enough arsenate of lead from the fruit-bloom at that distance to kill some of the colonies outright.

Geo. L. Emerson, in the *Western Honey Bee*, says: "For some years we have had our apiary No. 8 in a location that is over six miles from an orange-orchard, but these bees seem to gather orange honey as fast as bees nearer the trees when the weather is warm and favorable."

J. D. Bixby, on the same subject, said that he knows of an apiary in Iowa which is six miles from the nearest basswood-tree, and eight miles from any larger range of basswood. In any year that the basswood has yielded nectar, this yard has stored thousands of pounds of basswood honey. His personal knowledge of this yard extends over 45 years. He observed last year that numbers of golden Italians were working on white sage on a 1500-foot hilltop four miles from the nearest yard containing such stock.

Mr. Goeken, who read my translation of these items in which they say that bees would fly for orange and basswood nectar six to eight miles, writes in the *Bw. Ctrblatt* that he doubts that any bees in Germany—the blacks, Carniolans, or Italians, would fly that far for nectar, and added that, if these distances (six to eight miles) are

actually made by the bees it would be well to introduce them in Germany.

In his extended practice he found that, if bees were moved, during a honey-flow, a distance of one and a half to two miles, they would not fly back to the old stand.

According to his observations bees would gather nectar at a distance of $1\frac{1}{4}$ to $1\frac{1}{2}$ miles in any direction unless they are led further by an extended field of nectar-yielding plants. He asks any German beekeeper who has observed that bees gather nectar at such great distances as above cited to have such observations published.

A month later Heinrich Theen writes in the same journal that, generally speaking, he agrees with Goeken that bees usually do not forage much over $1\frac{1}{4}$ to $1\frac{1}{2}$ miles distant.

About seventeen years ago he was the only beekeeper who had Italians in that neighborhood. Seldom could he find his yellow bees further than $1\frac{7}{8}$ miles. However, his bees would visit a rape-field when the weather was real fine, at a distance of $2\frac{1}{2}$ to 3 miles.

At a distance of $1\frac{7}{8}$ miles from his apiary there is a heath of some 500 acres. In a dry season considerable honey is gathered by the bees near this field, while his bees visit the field of heather very little. He can find but a few cells of this honey in his hives.

BEES FLY FIVE MILES OVER WATER.

Mr. Theen states further, that on his side of the water the farmers have quit planting rape, but on the other (Danish) side there are still large fields of rape. From an elevated place some little distance from his side of the shore the rape-fields when in bloom can be clearly seen. At a village a quarter of a mile from the shore there are several small apiaries; and when the rape-fields yield nectar the bees fly in large numbers across the water—a distance of five miles. A few of the bees succeed in returning with a load, but the most find their death in the cold water. The fishers on the water's edge say that bees often take a rest on their boats when they pass the line of flight of the bees. Usually the bees fly very low on their return across the water, and a gust of wind drowns them by the hundreds. If the wind blows from the opposite side, lots of dead bees are washed ashore. He thinks the bees are misjudging the distance across the water, else they

would not undertake a trip which in windy weather means sure death to them.

So far as I can see from the writings of various authors it was generally believed that bees would cross only short distances over water; but here is a case that shows that assumptions, though long believed, may

be erroneous. By a long-distance flight to the source of nectar the loss of time consumed by the flight is not of so much importance as the wearing-out of the bees and the losses incident to long-distance flying.

Kempton, Bavaria, Germany.

A HOUSE-APIARY AND A SCHEME FOR KEEPING ANTS AWAY FROM THE BUILDING

BY E. R. ROOT

When we stopped off at Delray to visit Charley Repp, where the Repp brothers, of apple-growing fame, have their Florida farm on which they grow cucumbers by the earload I asked if there were any bees in the vicinity, and was told there was a man who had quite a house-apiary not a great

Hoeness. He owned a couple of town lots, all the bees there, and had been gone for two years. He used a sort of long German frame, very deep, and each colony was in a compartment by itself. Some of them were dead, but others were very much alive, as we found when we tried to "investigate."

But the thing that interested me particularly was a way to provide against the depredations of ants, which are very troublesome in those parts. The accompanying illustration, Fig. 2, will show one of the corner foundations surrounded by a concrete box to hold water. Every time it rains these boxes get filled with water, so, of course, the ants do not have very much chance to get into the building.

Not much was known of this Mr. Hoeness, and it was thought he had gone to Michigan. His near-

distance away. Of course I said I should like to see it, and, sure enough, he had quite a building. I took a picture of it as shown in Fig. 1.

No one seemed to know very much about the owner, except that his name was George

est neighbor is Mr. J. W. Lamb, and possibly he may know where he is by this time if he has not returned.

Of course bees are very necessary for growing cucumbers. No bees, no cucumbers. That has been proven over and over again.

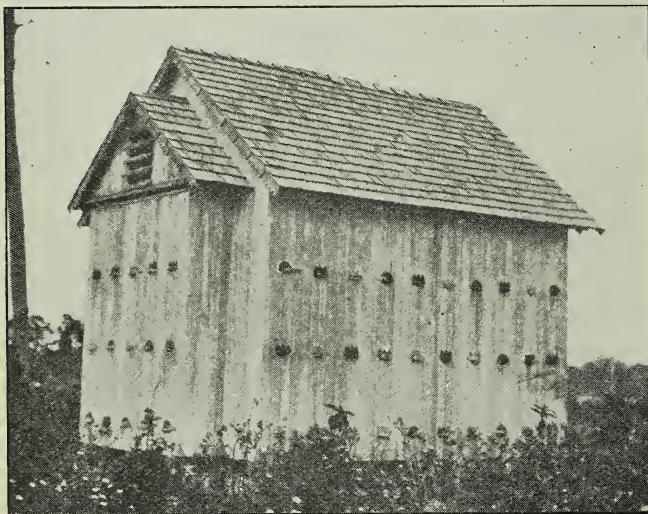


FIG. 1.—George Hoeness' house-apiary near Delray, Florida.

ARKANSAS RETROSPECTS AND PROSPECTS

BY C. W. RIGGS

Last year was one of the worst known in the history of this section, and bees as a general thing did not make honey enough to winter. I fed from the outside along in November and December; and on January

11, as all the bees were flying nicely, I went through my yard of twenty-six colonies and equalized the stores. I had five or six small nuclei that I thought it hardly possible to get through the winter, but to-

day (Feb. 16) all are flying, and upon examination seem to be doing nicely.

The maples are in bloom, and each colony (and nucleus as well) is as busy as can be, starting in the spring honey-gathering. We do not need to pack the hives in this section of the country, as we have only from four to ten weeks with, say, an average of six or seven weeks of any thing that might be

called winter. But only a few days of this is actual winter as known in the North.

Arkansas, generally speaking, is a good state for bees. In fact, the woods are full of them—more in the woods than in yards; but with the advent of sweet clover, which is coming into its own, I think she may take place as one of the leading honey states at no distant day.

Greenland, Ark.

TAKING BEES FROM A CHURCH

BY W. J. WOOLLEY, JR.

The village of Sedgeberrow is an old-time hamlet of about 300 inhabitants. It lies under the shadow of the Cotswold Hills, and is principally given over to farming and gardening. The church is a strong stone-built edifice with stone roof (not tiles).

Between the ceiling and the roof seven colonies of bees had built their homes. The old inhabitants stated that they had been there for 30 years for certain, and perhaps more. But the vicar of the church let them go on the same old way till this year, when they began to be a little more venturesome, and one day they swarmed while the service was being held, and settled inside the church. So the vicar decided that they all should be ejected from the holy place, pack and baggage.

He gave the order to a local firm of builders to clear the bees, honey, and comb from the building. They sent two bricklayers over from Evesham to investigate and eject the bees if possible. The men started bravely, and began to take the stone roof off the place where the bees were seen to fly from; but in less than half an hour they had to beat a hasty retreat down the ladders to the ground.

After a conflagration they decided to leave the work and get some one else to do it. So they decided to come to the local expert and ask me if I would undertake the job for them. After visiting the church I offered to do the work of clearing the bees and honey out if

I had the greater part of the honey and the bees. As they could not do it themselves they agreed.

The roof is forty feet from the ground,



FIG. 2.—Hoeness' scheme to prevent ants from getting into the house-apiary.

and the bees had built their home at the junction of the wall and the roof between the rafters, and between the ceiling and roof. After a good smoking, with the help of the bricklayers I proceeded to take the stone roof off over the nest, and found a very large nest in the form of a triangle. The longest combs were over three feet long, and the nest was a yard wide at the widest part. The majority of the combs were as black as ink, and were built like the combs in a skep or box. Some were straight, some crooked, and some braced together in all sorts of ways. After two days' work we three cleared the bees and honey out from the building. I did the work with the two bricklayers waiting on me, and carrying the

stones and the honey down the ladder to the bottom. It caused quite a commotion in the village, most of the inhabitants coming to get a look from a respectable distance. After we had finished we found we had about 260 lbs. of honey besides the bees. My share of the loot was 160 lbs. of honey; and after straining it I had 10 lbs. of wax. The other 100 lbs. was divided between the two bricklayers and the foreman, besides sweetening the boys who used to come and say, "Master, give us a bit of honey, please."

But what I noticed principally was that, although the combs were in some cases so

old, there was no sign of foul brood or any other disease. The bees were very strong lots. Of course I got my share of stings on my hands and arms, but that did not matter. I have had so many that my system has become used to stings. The other men got off very light indeed. Of course we all wore veils, which I provided. It took the bricklayers two more days' work to replace the roof after we had got the bees and honey out. It turned out a very pleasant and profitable work for me, and I should be glad of a few more jobs like it.

Evesham, Worcestershire, Eng.

MAKING GOOD WITH NINE COLONIES

BY H. N. WAGNER

The way I got into the bee business was very simple. A swarm had taken up its home in the corner of our house. So long as the bees were willing to attend strictly to their business they were left alone; but they took a notion that the whole house and yard was theirs. My wife and little boys were stung so often that at last they simply forced the man of the house to act. The bees had to be taken out. I read an advertisement in the local paper that Stoneman, the beeman, would take bees from houses. I found him a rather meek sort of fellow. In talking with him I discovered that he taught a class in the Methodist Sunday-school. This made me especially anxious to secure his services in getting out the bees, for I had often heard when a boy that bees will not sting a truthful or an honest man. I wanted to prove this old saying. I knew a teacher in a Methodist Sunday-school must be honest, and reasonably truthful.

On the day appointed, John with his tools and hives came out to do the work. He was to take out the bees and hive them, and I was to pay at the rate of \$5.00 a day. I was to help.

After the side of the house was opened, I stood back and watched John. I noticed that the bees were stinging him. I watched his lips, but I did not detect by them that he was swearing "under his breath." I hated to doubt the old saying, nor did I want to doubt John's honesty. I had some doubt about the truth of the saying within a few minutes, as I took a hand in the work and received several stings. I believe most old sayings are not quite true.

When we finished the day's work we had four colonies in hives. We took two from a neighbor's house; and, a few days before,

a stray swarm came along and settled on a sage-bush which I had put in a box.

I now felt that I had been born into the beekeeper's guild. John had gone home with a check for his labor and hives, and the tools which he said I needed. I noticed when he left he seemed to have an expression upon his face which said, "I have my pay for my work. You will get your experience as the days pass."

The bees were put into hives about the 10th of July. In October I had a surplus in large extracting-frames of almost 500 lbs. which I sold to people for ten cents a pound in the frames. After keeping honey for our own use I sold a little over \$40 worth to my friends. I had enjoyed taking care of the bees; and when the wife saw the money coming in she felt somewhat more charitable toward them. But they had stung her so much she was very sick from the effects of the stings, and has not learned to love them. She even claims that I, like all beemen, have gone a little "off my base."

Since I did not know any thing about wintering bees I read some of the methods given in the bee literature. I just packed them away in leaves, leaving part of the front of the hive exposed. When spring came I found one of my four dead. I opened the second season with three strong colonies. I made an increase of four. About the middle of the summer I saw John, my old friend who always has an eye to business. He knew I had a bad case of bee-fever. In his travels he had picked up nine boxes with a few bees in each box. He said, "I will sell you those nine colonies for \$11. I bit quickly. I took them home, and only six of them had any brood. I had also bought from my beeman ten ten-frame

hives and transferred the bees from the boxes into the ten-frame hives, making six colonies of them. When fall came they had filled the brood-chamber, and some had made some surplus. When I took off my honey in the fall I had a market for all that I had in the large extracting-frames. I found I had about 1200 lbs., for which I received ten cents a pound. I now had thirteen to winter, and successfully tried the same plan as the year before.

In May, while I was away from home for several weeks, there was much cold wet weather; and when I came back I found that four of the colonies had been robbed. There remained only a few bees in each hive. I placed them all in one hive and gave them a frame of larvæ. They went to work and raised a queen; and while they produced no surplus they had plenty for winter. By fall I had seventeen colonies.

A NOVEL SCHEME FOR PRODUCING COMB HONEY.

The past summer I produced nothing but comb honey in sections. My friend the beeman told me that I would have trouble in getting the bees to work in sections, and that I had better stay by my old method. But I had already ordered my supplies for running for comb honey. John said if I made twenty-five cases I would do well. After my robbing experience I had nine

colonies. I knew that any sensible bee would go into an extracting-super when the super is filled with full sheets of foundation. I said, "Why not fill the section-holders with full sheets of foundation?" I did. Then I took my sections, ripping them to make two sections of one. Then when the section-holders were about half filled with drawn comb I took the press which I had made, placed four of the narrow sections I had ripped on each side of the section-holder, pressed them down solid, and then put the section-holder back into the super to await results. The bees seemed to be struck with the scheme, and just went at it and filled them. I tried this upon each colony, and without exception they went into the super and worked fine.

When I took the sections off there was a line where the two halves of the section met. Over this I placed a strip of white paper, and I had a strong and clean section. I used this scheme to get the bees started to work. I had no extracting to do.

I had an order for 500 lbs. of honey in large frames. I produced this and almost 1300 finished sections from my little yard of nine, spring count, after four had been robbed out.

So much for my bee trials and joys. I still have the fever.

Blackfoot, Idaho.

EASTERN NEW YORK BEEKEEPERS' ASSOCIATION

BY S. DAVENPORT

The seventh annual convention of the Eastern New York Beekeepers' Association was held at the City Hall, Albany, Dec. 30, 1914. The unfavorable season for honey production during the past year evidently had a depressing influence on the beekeepers of this part of the state, as was indicated by the slim attendance at this meeting. The association has never before had so few members in attendance; but those who were present were all live wires, and what was lacking in numbers was amply made up in the very interesting sessions.

After the report of the treasurer, showing a handsome balance in the treasury, the president made his report as delegate to the joint convention of horticulturists and beekeepers held at Syracuse during fair week. The president also gave a long and interesting report of the annual convention of the State Association of Beekeepers' Societies.

Charles Stewart, state bee inspector, at the suggestion of the president, repeated his remarks given at the annual meeting of

the State Association on the subject of feeding back and feeders.

After some remarks by the secretary in appreciation of the several persons mentioned, who have shown much interest in the association and its objects, they were made honorary members as follows: Chas. Stewart, state bee inspector, Sammons-ville, N. Y.; Dr. G. G. Atwood, horticulturist of the State Agricultural Department, Albany, N. Y.; Dr. Burton N. Gates, apian professor at the Massachusetts Agricultural College, Amherst, Mass.; Rev. I. V. Lobdell, Middleport, N. Y.; Audubon Johnson, Simi, Cal. The three last-mentioned gentlemen were formerly active and valued members of the association.

A vote of thanks was given to the State Agricultural Department for the assistance of the state bee inspectors given to the beekeeping industry by their work and their attendance at the conventions of the beekeepers of the state.

The subject of advertising honey to create

an increased demand for it was considered, but no action was taken.

A committee nominated the following members for a board of officers, all of whom were unanimously elected. President, W. D. Wright, Altamont; first vice-president, Charles N. Hays, Brookview; second vice-president, Irving O. Cross, Hoosack Falls; secretary, S. Davenport, Indian Fields; treasurer, I. J. Stringham, New York.

A summer field-day meet and demonstration was suggested, and received much fa-

vorable consideration. The president and I. J. Stringham were elected a committee to superintend the matter and make it a success. The meet will be held at the home apiary of the president at Altamont, some time in July.

Two interesting letters from Audubon Johnson, Simi, Cal., were read by the secretary, and received much appreciation.

President W. D. Wright and W. D. West were elected delegates to attend the next annual convention of the State Association.

Indian Fields, N. Y.

DIVIDING COLONIES BEFORE THE SURPLUS HONEY-FLOW

BY R. F. HOLTERMANN

When we undertake to combat an idea we ought to make quite sure that the man we connect with that idea holds it, else we are apt to find that we are aiming at an imaginary target.

I want to endorse fully what Dr. Miller has stated in GLEANINGS in effect, that, with a white or alsike clover-flow prospect, it is unwise to divide colonies before that flow. For quite a number of years, now in the distant past, I had the management of a bee-supply business; and let me say in an aside that my experience in that line, knowing what the net profits were from year to year, has made me quite willing to let the supply-dealer have what he can make out of that business; but during that experience, and since, I have seen that one of the rocks upon which many a beginner in the bee-keeping business makes shipwreck is the intense desire for increase. It is like the case of the hen to which the owner gave about thirty eggs to sit on. When asked why he gave her so many he said, "I just wanted to see the old fool spread herself." I am not relating this story for fun nor with the expectation that the readers of GLEANINGS have not heard it before, but because it is applicable to the subject in hand. We as beginners want to spread ourselves and we often do it to an extent that we undertake more than we are able to bring to a successful issue.

There may be occasions when increase is desirable, sacrificing the honey crop; but as a rule, the first few years at least, it is better to make a very moderate increase and secure a honey crop.

On page 137, Feb. 15, Dr. Miller points out the difference between expecting a honey-flow from which one can reasonably expect a surplus, beginning May 27, and

when such a flow begins 27 days later. He stated that he had known the white-clover harvest to be over by July 4. I too have had such an experience. I venture to say that many a beekeeper has had no surplus honey, or very little, from one colony when he might have had 50 lbs. to the colony if these colonies had been in prime condition at the beginning of the honey-flow. I know what I am talking about, because I have had personal experience along that line. Who, unless he has equalized colonies, or unless he has a very limited number of colonies, has not had in the apiary some which have given about one superful of honey before or by the time another needed a super at all? In such a case as Dr. Miller states, if the flow should be short, or if it should cease at the time specified above, one can not see the great difference in yield. It is all very well for people to talk about having every colony practically the same. In rare instances it may be so; but more people judge their own with partial eyes, and I fancy I would require a microscope to find the percentage having the apiary in such condition.

My practice, so far as the magnitude of my operations will allow, is to build up the bees so that they will occupy with brood, bees, pollen, and honey the twelve-frame brood-chamber. I then take out of the strongest colonies several combs of brood as nearly mature as I can find it, and give these to colonies which will not quite reach that stage by the time the surplus flow comes on. This practically makes them full colonies also, and so in this way I get the largest number of full colonies for surplus honey. Every bee emerging from the transferred combs is in a full worker colony, and the brood developed in the frames put into the strong colonies will be much

greater than that which would have developed in the weaker colonies.

In the place of the combs of brood taken out of the full colonies I insert frames with foundation unless I have all the comb I want, for no better place could be found for this work. If I put in drawn comb I seek to use that which has been used in the brood-chambers.

Let me say here that there are, perhaps, many beekeepers who put combs into brood-chambers built on sheets of foundation which have absolutely no business in a brood-chamber. If the foundation stretches, the comb built thereon is unsuitable for brood-rearing. The queen dislikes it, and it is a hindrance to the rapid development of brood. If comb has been in the super with wide spacing, as is generally the case, making it a deep cell, it is objectionable, and the bees have to remove a portion of the side wall before it is useful for brood. Such a comb should be thinned down with a sharp knife before using in a brood-chamber.

It is a very difficult problem with me what to do in case the brood-chamber is crowded and a good honey-flow is on. Generally when a comb of brood is taken out and we insert an empty comb the bees are more than likely to fill it with honey; and where that is recommended I sometimes wonder if the beekeeper has tried it very much; or, if so, whether he had time to note the result; or if the colony was really a

strong one, or if the honey-flow was really a good one. This may be an honest case where the nature of the honey-flow may make a difference in results.

After trying the Alexander method of increase, if by that is meant putting a weak colony on top of a strong one, I have not found that method as advantageous as the way I have described. It appears to me that the weak colony must be built up at the expense of the stronger; and until the stronger has more bees, heat, working force, and the queen has reached her limit in egg production, I see no gain in giving them the added responsibility. P. C. Chadwick well states, page 139, "I infer that Dr. Miller believes in one large force of bees to a hive, rather than a slightly greater number divided into two hives, and in this I believe he is entirely right." So say I.

For years I had the bees on clover ground during the early part of the summer, and about Aug. 1 I moved them to buckwheat. I did not then consider it wise to risk a portion of the white-honey crop with the object of being the gainer on the dark flow. There may not be any dark honey, and it is worth less per pound.

Increasing during the honey-flow, or before a prospective flow, is in my estimation unwise unless one has the practical experience to warrant keeping more bees and if he cannot purchase them at prevailing prices.

Brantford, Canada.

HOW I IMBED WIRES IN FOUNDATION

BY A. W. SMITH

Perhaps some might like the way I fasten foundation in wired frames. It seems that Miss Wilson has been using a somewhat similar method, but I had not the slightest idea she or any one else imbedded wires this way. I worked out the problem alone four or five years ago, and with the help of a boy at fifty cents a day I securely fastened 150 pounds of medium brood foundation in wired frames in ten hours, and found this plan better than other methods I had used.

Our method is, in brief, as follows: Make a coverless box 4 inches deep, about 8 inches longer than the top-bar of the frames, and $\frac{1}{8}$ inch wider than the outside width of the frame. On the outside of the box at the upper edges fasten thin strips about $\frac{3}{8}$ inch higher than the sides of the box, these to prevent the frame from moving sideways when pushed along on the edges of the box.

Then secure four little spirit-lamps holding perhaps two ounces of wood alcohol each, and trim their round wicks so they come to a point.

Fill and place the lamps near the center of the box in such a position that the blaze nearly touches the wire of the frames when slid along on the edge of the box. Pressing a piece of pasteboard against a sheet of foundation placed on the wires in the frames, slide the whole arrangement over the lamp blaze and see how quickly and neatly the four wires have been imbedded.

I do not use groove and wedge top-bars, and have several reasons why I would not use them as a gift. I fasten the foundation in the top-bar with melted wax, holding the frame nearly perpendicular so that the hot wax will not melt through the foundation.

Birmingham, Mich.

BEGINNING WITH BEES HALF A CENTURY AGO

BY WILLIAM P. HENDERSON

Before I arrived at manhood I dreamed I would have a home of my own, with plenty of milk and honey—two articles of diet I was fond of. So, soon after my marriage a small place was purchased; then a cow and calf, and a hive of bees. But knowing nothing about bees, except that they make honey, and can sting, I learned from the farmer of whom a hive of bees was purchased, that at a certain time of the year, "corn-tasseling" time, after dark I was to tie a bed-sheet around the bottom of the hive to make a bag, pry off the top of the gum, and cut out the honey down to the cross-sticks in the middle of the hive, having previously prepared rolls of old cotton rags with which to smoke the bees off the comb.

About this time, which was more than fifty years ago, in looking over a catalog of books for sale my eyes fell upon "The Mysteries of Beekeeping Explained" by M. Quinby, St. Johnsville, N. Y. Up to that time, if my memory serves me, I was ignorant of any literature on the subject of the management of bees.

"Mysteries of Beekeeping Explained"—that's what I want to learn. It is all a mystery to me, except what was told me by

some old bee-owners whose advice and theories, as I afterward learned, were upset by Mr. Quinby.

The book was ordered, received, read and reread, and frequently referred to afterward for directions in manipulating my bees.

The work of Mr. Huish, F. R. S., an English author (full of errors), and other books on bees were afterward purchased; but in a practical way they were not the equal of that of Mr. Quinby's.

From that time on I went far ahead of the old timers in the production of honey and growth in numbers of my colonies.

Tampa, Fla.

[In the late 70's and early 80's, Mr. W. P. Henderson, then of Murfreesboro, Tenn., was one of the most prominent queen-breeders of the country, and, incidentally, a spiey writer along his line of work. He made one of the best collections of old bee-books ever known in America, being second, probably, only to that of Thomas Wm. Cowan in London. These books were transferred to us in 1892, and were reviewed in detail the following year. Any thing from his pen is worth reading.—Ed.]

A. I. ROOT

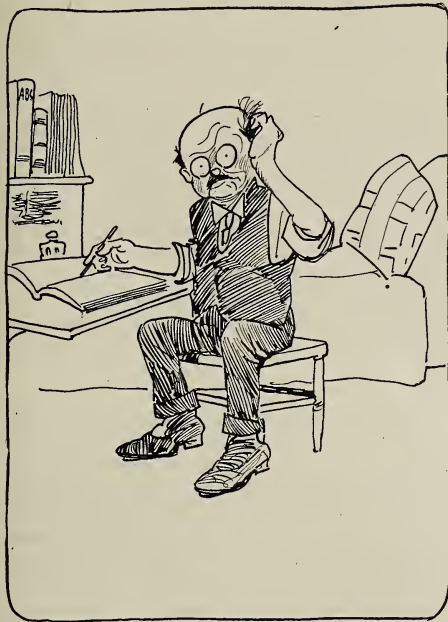
BY GRACE ALLEN

Alone I sing so slight a song, I'm like a single bee,
Her humming all unnoticed in the blossoms of the tree;
But when the petals quiver and the fragrant air is stirred
By murmurs of a thousand bees, ah! then the song is heard.
So, beemen near and beemen far, come swell my simple song,
And let it surge from sea to sea and echo true and long:
"The world will be a fairer, cleaner, better place for all
When more men live like A. I. Root and let their souls grow tall."

Through all his years he's stood for right, for honesty and truth,
And see him now, in autumn time, as eager as a youth
To fight the evils of to-day, and in this pulsing Now
To meet new issues and new hopes with forward-fronting brow.
So, beemen near and beemen far, come join in my refrain,
And sweep the hearty echoes over mountain-top and plain:
"The world will be more like the place to which our dreams have clung
When men grow old like A. I. Root by simply staying young."

We love his little stories and the happy life they mean,
That first stray swarm, the windmill days, the chickens and dasheen,
The faith and works, the lesson learned, the earnest, hopeful prayer,
And how he helped one brother here, another brother there.
So join with me, O beefolk all, and let the echoes ring—
We're standing upright through the land as from our hearts we sing:
"The world is finer, sweeter, and God's Kingdom seems more near,
Because a man named A. I. Root is living with us here."

Heads of Grain from Different Fields



The Backlot Buzzer

Sometimes it's a question which has the best-laid plans for the coming season—the boss or the bees themselves.

Has Never Found Foul Brood in Trees

I have been a bee-hunter ever since I was large enough to look up a tree, and my father was one before me. I always find from five to ten trees every year, and I have wondered why bees in a tree never have foul brood.

Last summer I helped to cut six trees on Fort Lewis Mountain. Making a good examination for foul brood I found every bee perfectly healthy, and the combs showed no signs of a bad cell. The reason that I am giving special attention to foul brood is that it cleaned up an apiary of a hundred colonies one or two miles from the mountain, and several absconding swarms have left this yard.

Just as with Ernest Webb, page 950, Dec. 1, it seems to me that when a swarm leaves a diseased hive and goes to the tree it would have the disease just the same as if it were in a hive. But the only foul thing I ever saw in a bee-tree was a blacksnake 6 feet 9 inches long. Father and I cut a bee-tree a year ago last summer. We found a snake among the bees, and there was not a single bit of honey in the comb. The bees seemed to have made friends with the snake, and did not try to sting it at all. The combs were five feet long.

Roanoke, Va.

HENRY S. BOHON.

[We see no reason why a colony in a tree might not have diseased brood. In fact, if we are not mistaken disease has already been found in trees.—Ed.]

Cyaniding the Ants

I was somewhat amused at the article by E. S. Miles, entitled "Fighting the Ant Invader," and wondered that a man should use a "barrel of coal

oil" to kill a few ants when for half a dollar he could kill all the ants on a ten-acre field. Here is a simple remedy:

Take one pound of cyanide of potassium and dissolve it in five gallons of cold water. Take a small can and go to each mound where the ants are, and pour about two or three tablespoonfuls of the liquor in each hole. In about four or five days, when a few more eggs hatch, repeat the operation again. It's good-by to the ants. Should any more eggs hatch, repeat the dose a third time. I have had some trouble along the same line, and find this remedy will overcome the pests completely. Strict care should be exercised in handling this remedy, as it is very poisonous.

Prescott, Ariz.

DAVID MILLER.

Too Many Supers Hinder the Introduction of a Queen

D. E. Lhommedieu is wrong on page 125, Feb. 1, in regard to the Miller method of introducing queens. Mr. Miller said that queens should not be introduced until the colony has quieted down from the overhauling in removing the old queen. This takes from four to six hours; and to try to introduce before is to invite disaster. Queens can be introduced from that time until they may have laying workers.

I think the cause of Dr. Miller's failure in introducing was the number of supers he had. If two or three supers are on the hive, it is impossible to get the whole hive full of smoke in blowing it in at the entrance. One or two puffs should be blown between the supers, and no more should be on than the bees can fill completely so they will not be driven up out of the brood-chamber.

Grosvenordale, Ct.

ERNEST RYANT.

How to Avoid Loss through Aster Honey

I can testify from experience to the truth of the statement, page 136, February 15, that aster honey gives bees dysentery. This locality is full of aster flowers, mostly white and brown, and they keep on blooming until the frosts kill them. They yield quite a quantity of honey.

When, thirty years ago, I began keeping bees, studying the A B C and subscribing for GLEANINGS, I followed their advice closely. I packed my bees for winter never later than the 15th or 20th of September. About that time the aster began to bloom; and as a result my bees had their hives full of aster honey, and most of it was uncapped for winter. I lost many, mostly by dysentery—sometimes 50 or 60 per cent.

I finally discovered the trouble, and now I never pack my bees until the aster honey-flow is over. Last fall I did not have a hive packed before November 1, and a year ago I was just done with it when the blizzard set in on the 9th of November. My aim is to get as much aster honey out of the hive as I possibly can, and as a result my winter losses are very small.

Port Clinton, O.

JULIUS JOHANNSEN.

Who Cares What a Section Weighs?

In seasonable years like the last, we can produce a very fine grade of comb honey here, mostly from wild prairie flowers, mesquite, and catclaw; but I think the government requirement as to having the weight stamped on each section is too severe to allow either me or any one else in this country engaging very exclusively in the production of comb honey. A comb of honey should sell on its looks,

like a watermelon or orange, or any kind of individual fruit or luxury, not by its weight. There is not one purchaser in 500 who cares whether the comb of honey he buys weighs 14 or 16 oz. so long as it appeals to his fancy in looks and flavor; so, why should we beekeepers be hampered with such an unreasonable ruling when the public can see what they are buying before they buy it. Unless something is done to have this regulation withdrawn I fear that comb honey will be even a scarcer luxury on the market of 1916 than it is now.

Clairemont, Texas.

BASIL C. CATRNS.

Few Swarmed Out After All

I see that Dr. Miller says, page 137, Feb. 15, as to my plan what to do when a swarm issues, that he would expect them to swarm again in twenty-four hours. I treated twenty-seven colonies that way in 1914, killing cells and taking four or five frames of brood, and only two swarmed out the next day. I had fifty queen-cells, although we had a rather poor season in 1914.

The colonies treated in this way all gave some surplus, from 35 to 50 sections of comb honey, while the swarms that were hived on full sheets of foundation gave ten to twenty sections, and some not any. In using this plan I think it best to put the brood in one side, as they will work in the sections sooner.

I am going to use this plan in 1915, and will report what success I have.

Juda, Wis.

JAMES G. BENSON.

Bees Working on Red Clover

My bees are common hybrids, but last summer they worked on the second crop of red clover. While they stored but little or no honey, yet the hives increased in weight very much during the time red clover was in bloom; and if it had not been for red clover we would have had to feed in midsummer, as there was no white-clover honey, and the hives were very light August 1.

Some 25 years ago, when first coming on this farm I bought a colony of bees which died the first winter. I let the hive remain on its stand, and the second summer a stray swarm took possession, and my present stock of bees is from this stray swarm. I suppose that my bees are not better than hybrids at most, for, so far as I know, we have only one man for many miles around who has ever introduced Italian queens, and he introduced only one or two at most. At different times I have noticed my bees on red clover; but not up till last year did they get much nectar. Last year the hives were very light when the second crop of red clover began to bloom. I noticed that the bees were hustling out early in the morning, and working all day during August. In spite of the fact that we were having a very severe drouth. At first I could not tell the source from which they were gathering their stores; but I finally traced them to the red-clover fields, where I found many of them working on the red-clover bloom. And I know further that the hives increased very materially in weight during this August drouth while the bees were working on the red clover. We had good July rains that gave the second crop of red clover a good start, so that we had a good growth of stalk and head. It was very hot and dry in August when the clover was blooming.

Mendon, Mo., Nov. 2.

NATHAN CLAIR.

South Winds Diminish the Honey Crop

Much is said about the shortage in the honey crop last year, and the blame appears to be laid to dry weather. If you have ever rustled sap in a sugar-camp you have learned that south winds dry the flow of sap. I have noticed that, when the prevail-

ing winds are southerly, the bees gather but little nectar. I have noticed this for a number of years. Here in northern-central Iowa the winds were mostly from a southern direction last summer, and our crop of honey was light. In 1913 it was almost as dry, but we had very little south wind, and therefore a bounteous crop of nectar.

Moorland, Iowa, Oct. 5.

UNCLE JOE.

Aster Honey has Done No Harm So Far

Thinking perhaps you would like to hear how bees are wintering in northern Michigan, where the mercury often drops down to 40 below, I will say I placed 59 colonies into winter quarters (in cases out of doors), and to-day, Feb. 22, every colony took a nice flight, and seems as strong in bees as when placed away. I tell you it made me feel pretty good to see them out so nice. Some of them had flown before, where they were back in the brush, and were more favored with the sun.

I was afraid of aster honey, as much of it was not sealed.

Mio, Mich.

JOHN A. STEVENS.

White Clover Poor because of Drouth Last Year

Honey prospects in this locality are very poor for this season. In my inspection last year I traveled all over the western part of this state, and found very little white clover started, on account of dry weather. Some places have considerable sweet clover, and there will be some honey-flow in localities along rivers; but generally the prospects are poor.

Most of the bees I inspected last season were short of stores, and weak in bees; and unless they were fed and protected there is sure to be a heavy winter loss.

Altona, Ill., Feb. 28.

W. B. MOORE.

The Farmer a Beekeeper

As to farmers keeping bees, p. 81, Jan. 15, I should say if there are none of the contagious diseases in the neighborhood every farmer should by all means have one or more stands. They require but little care, and are a diversion and added interest to him, and an education to the children, besides being the source of a delightful addition to the bill of fare of the home.

Where the contagious bee diseases are prevalent, however, I consider it utterly useless if not a crime against neighboring beekeepers, unless the farmer intends to turn beekeeper, or have the bees looked after by some one who is a beekeeper.

Carthage, Mo.

B. C. AUTEN.

Oregon Basks in Sunshine

Bees are now working on chickweed, crocus, and pussy willows when the weather permits. People are playing croquet out of doors. There has been no snow this winter, and the lowest temperature was 15 degrees. A brood of nine chicks, hatched about Feb. 1, have spent the greater part of the time out of doors, and all are alive and happy, notwithstanding Oregon is "dry."

Forest Grove, Ore., March 2.

S. T. WALKER.

Reports Successful Wintering

Bees have wintered well, and are in excellent condition at this time. A heavy aster flow last fall made plenty of stores for winter, and spring feeding will be unnecessary. Although it is early to predict, the clovers do not look promising here.

Jacobsburg, O., Mar. 2.

A. W. McMASTER.

A. I. Root

OUR HOMES

Editor

Choose ye this day whom ye will serve.—JOSH. 24:15.

His sons made themselves vile, and he restrained them not.—I. SAM. 13:13.

Honor thy father and mother, which is the first commandment with promise; that it may be well with thee, and that thou mayest live long in the earth.—EPH. 6:2, 3.

I was brought up by godly parents, and attended Sunday-school regularly until I was toward a dozen years old. We lived in a small town; and when I approached my teens I got in with a crowd that made light of religion, and soon began to think I was getting *too old* to keep on with the children, notwithstanding the efforts of my parents, especially my mother. I was born on a farm in the woods near my present home; but when I was four years old father was persuaded to abandon the farm, move into town, and work at his trade. He always had a longing for the farm, however; and after about eight years in the town (see p. 167, Feb. 15) he moved back to the old farm. It just now occurs to me that very likely he decided the farm would be a *better* place for his two boys approaching manhood. As we were about 2½ miles from church, one of his first moves was to get a six-seated carriage in order that he might take the whole family to "meeting" regularly every Sunday.

It happened, however, in this case, as in most others, that there were sabbath-breaking boys in the country as well as in the village, and my brother and I preferred rambling about with these new acquaintances rather than going to church. Father expostulated several times; but it seems we gave little heed, and, I am sorry to say, I cannot remember I had been to church with the family a single time until I was close to sixteen.

One Sunday morning, when my older brother and I were just ready to start off as usual, father came to us looking pretty stern. As well as I can remember he spoke something as follows:

"Boys, a responsibility rests on my shoulders. The carriage stands there ready to take you to church, and there is plenty of room. If you decide to go with us, well and good, and you are most heartily welcome to our home as long as you choose to stay. If, however, you choose to spend your Sundays as you have been doing, and with the crowd you have been going with, you will have to find a home elsewhere. I have thought the matter over for some time past, and I am sure I am right. Think it over, and take your choice."

As memory goes back, may God forgive me for being obliged to relate that, at that time, I regarded this as an encroachment on what might *now* be called "personal liberty." I advised that we go ahead as we had started, and suggested the "old gentleman" would probably "let up a little." Marshall, however, knew father rather better than I did, and suggested we "go to meeting" just this once, any way. I didn't seem inclined to agree, however, until he further added: "Ame, there is a lot of pretty girls up at the church, as well as off where we were intending to go," and that turned the scale. We went to church, and, singing in the choir of that country church, I caught about the first glimpse of her who is now Mrs. Root. Please don't smile, dear reader, when I confess that, after that Sunday, I needed no more urging toward *church-going*. My motive was not a very good one, perhaps, but it resulted in my hearing some good honest sermons that I very much needed at that age. It was the turning-point in my life. Father did not *say*, as did Joshua, "Choose ye this day whom ye will serve," but it came pretty near to it. It is, I happen to know, *just now*, a question as to how far a father shall go with boys just turning into manhood. To threaten to "turn the boys out of house and home" is certainly a pretty severe procedure; but what other course had he? Let me tell briefly how we had been spending our Sundays.

It is true we usually went to a Sunday-school in a country schoolhouse; but we went there only to interrupt the services and "have fun."* After Sunday-school we went to a sort of grocery (there were no *saloons* at that early day), and bought *beer*. One treated the crowd, and the next time another treated. As an evidence of my want of sense at that early age my brother had to inform me that after I had taken the beer others paid for it was incumbent on me to treat likewise. At that time my "income" was from chickens, and it came a little hard to take my well-earned "chicken money" to treat a crowd to *beer*. (Have any of our "chicken" readers had a like experience?) Well, I got the experience "good and hard." As the barkeeper filled the glasses he asked me if we would not like a little wine in with the beer. As it never

* Years afterward, when I started to serve the Lord one of my first promptings was in regard to that Abbeville Sunday-school, and for eight years I went down there (five miles), winter and summer, and kept the school going. I have in past papers mentioned some of the results.

entered my head the spoonful of wine would cost any more I innocently said, "Yes, put it in;" but when he explained it was ten cents each instead of five, because of the wine, I became wiser and sadder also. I "wisely" concluded, also, even if I was only sixteen, that the "*chicken business*" would not stand any such "incidentals."

Had Eli "laid down the law" to his two sons Hophni and Phinehas, as my father laid down the law to *his* two sons, it *might* have averted that terrible war that cost Israel 34,000 men. The example these two set by profaning their holy office did at least very much to corrupt and lead astray the nation. It has been suggested more than once that the terrible war now going on in Europe is the result of letting men stand in high and sacred places who, like Eli's sons, "knew not the Lord."

Let us now go back and consider what might have happened to *me* had I chosen differently on that momentous Sunday morning. Like many another boy of sixteen I had not at that age any particular conscientious scruples about following my fancy for any particular "*Delilah*." In fact, I had already an eye on a girl I had met and talked with on those Sunday trips.

Just recently we had "Endeavor Sunday" here in Bradentown. The Endeavorers of all denominations had a *union* meeting, filling a great church. Our pastor gave us a splendid Endeavor sermon, and among other things called attention to the marriages that had resulted among the Endeavorers. He said the Christian homes they had established and were establishing were *model* homes, and were going to raise the standard of the nation. My friend, if you want a wife, look for her in the church or Sunday-school or Endeavor society.

Just a word about that expression in our last text, "that thy days may be long upon the land," etc. I am now over 75 years old, and able to do quite a lot of work besides writing these Home papers. Is there any probability that this would have been the case had I decided differently on that Sunday morning? Suppose I had kept on with the beer-drinking crowd, perhaps married the bold girl I had met (say at eighteen) instead of waiting until I was twenty-two, etc. Suppose I had cut loose from the dear old home and the praying mother—the mother who was doubtless praying for her boys *most earnestly* when they were settling the momentous question, "Choose ye this day whom ye will serve."

BEE "KEEPING" BY A. I. ROOT; "THAT BEE DISEASE."

Since A. I. Root has become "really and truly" a *beekeeper*, you would naturally expect some words of wisdom from him on the subject. Well, I think they are coming. Before the "wisdom," however, I want to say that it seems that, wherever I go, people *will* introduce me as "the great authority on bees;" and one of the papers recently was so kind as to say I probably knew as much about bees as "any man living," etc. Of course, I try to explain (modestly, of course) that I *was* "pretty well up" in a former age; but "the present generation," etc. Now for the wisdom.

About a week ago I noticed some immature bees and larvæ out on the ground in front of that three-story hive; but as the bees seemed very busy on the advance orange bloom I supposed they must be putting some honey above; for when last examined they had quite a few sealed stores; but the morning after finding a teacupful of dead bees were out in front, and more that could just crawl on the bottom-board, I tell you that hive was pulled apart quick.

There wasn't a cell of honey in the whole colony, and scarcely a cell of unsealed brood, although there was a *big lot* of sealed brood in almost every comb below. With the cold rains we are having (three times the normal amount of rain during the last winter), they had been able to work only "from hand to mouth," with the great amount of brood they had been caring for. I got a jar of honey "in a jiffy," and, holding it high up, let it drizzle slowly into the empty cells. The honey was *really* about half hot water, so they could handle it quickly; and after the hive was closed up you ought to have seen the rejoicing. They poured out of the hive almost as if they were going to swarm, and then danced in the sunshine to express their thanks for their sudden and unexpected timely deliverance. It made me think of some of my timely answers to prayer, when I was caught unexpectedly in sore straits. To make sure of no more such "blundering" I gave them a whole pint of honey next day, poured into the empty combs in the upper stories. How is the above for the "great beeman" with only *one* colony of bees to care for? I then put the dead bees on the ground in front, in a corn-popper, sprinkled them with sweetened water, then placed them in a warm oven, after the fire was all out, but only a few revived. They had been neglected just a little too long. Of course they are all right now, but my loss through almost criminal neglect is all

the unsealed larvæ right in the middle of March, during orange bloom.

The above reminds me of an incident of perhaps thirty years ago. A prominent judge came to me one morning during fruit bloom, saying his bees seemed to be "sick," for they were crawling about listlessly in front of the hive, instead of working on the apple bloom, etc.

He said, "Mr. Root, I reasoned that, if there was any disease that afflicts bees, you would be the man of all others to diagnose it, and you would also be more likely to know the specific remedy, if there was one." As soon as I lifted his hive I replied:

"My good sir, I am glad to tell you I *do* know all about the trouble, and the proper medicine, and that I can cure your bees in a few minutes. Get me a teacupful of sugar and some hot water." I sprinkled the warm sugar and water on top of the combs, and also a little on the almost lifeless bees in front of the hive, and in a few minutes there was a glad uproar. The learned judge said he never before heard of *sugar as a medicine*.

Again, when Mrs. Root and I were in California, one morning a young man with a fine span of horses and buggy drove up to our boarding-place. He said I must go out in the country and look at his bees, for he was in trouble. He insisted that Mrs. Root should go also; but when we got there his good mother was in a flurry because he had not told her he was going to bring home company to dinner.

I am going to have two morals to this story, and one of the two is this: Don't ever bring company to dinner without first informing your wife or mother that you wish to do so.

In spite of Mrs. Root's protest the good woman *would* work hard to get up "a fine spread."

Well, I found fully 50 colonies of bees, more or less, afflicted with the "disease" (?) we are talking about. Some were too badly "affected" to be fully restored; but with a painful of sugar and a teakettleful of hot water we soon had the whole outfit filling the air, and rejoicing in health, and the owner and his mother both happy and wanting to pay us for just telling them the bees were simply *all starving*.

Once more, when your hives are full of brood, especially unsealed brood, it takes a pile of honey and pollen to fill the hungry mouths. Right in the midst of a honey-flow, or what should be a honey-flow, I have often found populous colonies without a cell of honey in the whole hive *in the morning*, when the combs seemed, the night be-

fore, to be fairly supplied. Now, if cold rainy weather comes on, say for a day or two, the honey crop is often curtailed to a greater or less extent, and yet the owner may never know nor even *guess* what caused his disappointment. Just a temporary check on brood-rearing at a critical time results in loss. This is my *second* moral, and if it shall cause *you* to be more watchful I will try to think *my* blunder was providential, inasmuch as it caused me to give you this warning.

"WATER-WITCHING," ETC.

I wish to write a few words on the subject of water-witching, in which you have often expressed disbelief. I never believed it, and can't say that I do yet, but wish to tell you of what happened in this neighborhood, where water was apparently found by this method on a farm two miles from here. The farm was owned by two young men who, however, did not live on it, but kept it for pasture. There were two wells on the place, but they always went dry when there came a dry time. The summer and fall of 1913 were exceptionally dry in Ontario, and I believe it was so in many parts of the United States. In the early part of August these two wells went dry, and it was very inconvenient, especially as the owners did not live on the place. Their brother's hired man, who lived five miles away, heard of this, and said he would find them a well by witching providing there was any water on the place. He came over one day and "located" a well 20 or 25 rods from the other wells. He said they would have to go down 30 or 35 feet; or if they got water any sooner it would be a very strong spring. As soon as they got their harvest off toward the beginning of September they started to dig. I often talked with them, and laughed for trying to get water by this means. At 23 or 24 feet they struck a very strong spring which rose to within nine feet of the top ground. The well is as good as ever to-day, and *seems* to prove something in favor of water-witching.

Brucefield, Ont., Can.

HUGH MCGREGOR.

My good friend, in the above case two wells were dug (you don't tell the depth), and no permanent water; but a third one, a little distance away, gave a good continuous supply. This often happens, as we all know.

Let me repeat: God and nature are "no respecter of persons." Every *real discovery* in the realm of science works alike with *everybody*. In all the reports that have come to me, I have never yet found an educated scientific man (say like our college professors) who could locate wells as above. It is conceded by all that the subject will not *bear* the searchlight scrutiny of up-to-date science. It won't even "work" when the operator is blindfolded.

Possibly you may be interested in knowing that I had a colony of leather-colored Italians (propagated from nuclei bought of you) in a ten-frame sectional hive that produced 70 shallow frames of comb honey last season—just a little over 280 lbs. of surplus honey. The queen was one year old last July. All my bees did well, a few colonies averaging considerably over 100 lbs.

Lynchburg, Va., Dec. 2.

A. P. ROBERTS.

HIGH-PRESSURE GARDENING

OUR FLORIDA GARDEN, ETC.

A few days ago a representative of our Bradentown *Evening Daily* paid us a visit. He pretty soon took out his notebook and pencil and tried to take down the names of some of the new plants from the Department of Agriculture; but when he came to *Jabotica caba, feijoa*, etc., he gave it up. I have left out some, and made slight modifications where he did not quite catch my hurried talk.

"NEVERSWEAT" FARMER BUILDS SCAFFOLD TO SUPPORT FINE FRUIT.

A. I. ROOT MAKES PILLOWS FOR PAPAYA "APPLES" LARGE AS WATERMELONS TO REST UPON; COLLECTS DASHEENS FROM MANY LANDS; MAN WHO KNOWS ALL ABOUT BEES TAKES DELIGHT IN TESTING POSSIBILITIES OF FLORIDA SOIL AND CLIMATE, AND IN PROPAGATION OF FANCY AND USEFUL NOVELTIES.

A. I. Root who maintains a winter home on Richland Avenue, who knows more about bees than any other person in this "neck of the woods" (and probably more than any one else in the world), is the champion never-sweat farmer in this part of the earth. Indeed, the man of large affairs, who delights in spending his winters in Florida, is so enthusiastic in the matter of his farming operations that he can scarcely take time from his wonderfully interesting garden to make the trip to the postoffice or to the corner grocery with dasheens and duck eggs with which to pay the family grocery bill.

"About forty years ago," Mr. Root said at the home yesterday, "I became interested in the study of bees. Some folks said that I was mad on the subject of bees," he remarked with a smile, in remembering and relating the conditions of so many years ago; "but when I discovered and demonstrated that I could take a barrel of honey in a season from a single colony of bees my critics were forced to admit that at least there was method in my madness."

It would be a difficult matter to find one in any station of life who is apparently happier in his work than is Mr. Root in his. In the beautiful garden which is a part of the splendid homestead in the southwest part of the city the owner takes special delight in collecting rare and possibly promising specimens of fruit and vegetables from all over the world, and it is frequently his pleasure to enjoy the juicy freshness of some new variety that cost him several dollars a pound. He enjoys this novel experience with the same relish that he does the dasheens which he takes from hills producing half a bushel to the plant. It is all the same to him. He is a philanthropist in his work to the extent of seeking to propagate varieties of fruit and vegetables which will prove valuable for general cultivation in addition to the varieties which he cultivates purely as novelties.

In his collection of dasheens there are varieties from South Africa, from South America, and other tropical lands. He sees in these a valuable crop whose cultivation and uses should be more generally understood and appreciated. Every part of the plant is edible—not only edible but exceedingly desirable as a food, Mr. Root says. The tubers are better than potatoes, he believes, as a food, and he likes them, baked, twice a day. The stalks are fine and tender, and pleasant to the taste as asparagus, a real luxury of the North, and the leaves are equal in desirability to the best of spinach greens.

Mr. Root's specimens of the dasheens from South

Africa and South America are gifts from missionaries who were his friends, and are prized because of their associations.

In the wonderful garden which constitutes a revelation to the northern visitor who is unfamiliar with the marvelous possibilities of Florida soil, a specimen of the *Papaya carissima* flourishes. Missourians call it pawpaw, although the pawpaw of the Missouri bottoms is quite different from the fruit in Mr. Root's garden. The odd and even unusual thing about Mr. Root's papaya-tree is that he has scaffolding constructed all about its body like the scaffolding about a house in course of construction.

This work does not constitute a device for saving the tree, but is a support for the fruit, of which there are eight or ten specimens, some of which are beginning to ripen. They are so large that it is necessary to build the support about the tree to hold crossbeams upon which the fruit rests, on padded cushions.

Mr. Root is cultivating a large number of trees which are rare and almost unknown in America, whose names can be spelled only through the diligent aid of the most classical works on botany. He has rainbow corn, one of Burbank's novelties, and specimens of his spineless cactus, growing close to the old-fashioned peas and beans like those which grew in grandma's garden, and the Irish potatoes, the real thing in "Murphies," in which the winter resident rejoices.

While Mr. Root enjoys working with his own hands in the development of his Florida property he keeps a man who devotes his time to the care of the premises and the cultivation of the various crops produced there, including a splendid yard of chickens and pens of Indian Runner ducks. He has invented his own arrangement for baffling the efforts of the woods rats to rob his poultry. A galvanized tub set on the stump of a tree provides a unique feeding-trough for the chickens, and a tub planted in the soil and filled with water, in which grain is cast, furnishes an ideal feeding-trough for the ducks, and is rat-proof.

While the matter of profit is not a consideration with the farmer who loves to revel in the splendors of the Florida winter, it nevertheless is a source of satisfaction to him to know his products, many of them, even when grown in an experimental way, are produced at a profit.

Mr. Root likes Florida so well that he would like to remain here the year round; but Mrs. Root remembers five sons and daughters, all married and living in separate homes, and within talking distance of the old homestead in Medina, Ohio, which is their home town.

There is a bevy of grandchildren, also living in the homes about the old homestead; and soon after the annual migration of the wild birds she insists on moving back where she can be near her treasures.

HELIANTH, THE NEW FLOWERING PLANT AND VEGETABLE, ETC.

Last May one of our readers sent me a circular in regard to this plant, and in our issue for May 15 I severely criticised the Burgess Seed Co., who sent out the "glowing" circulars; but in the June issue I gave notice that the above seed company procured the seed and circulars from a prominent seedsman. The Burgess Co. also kindly sent me a few tubers for trial. In

our Oct. 1st and Nov. 15th issues I made a report. Well, I brought tubers, and also *seed*, down here in Florida, but so far have entirely failed to get either to germinate. This failure may be owing to the very unusual amount of cold rains we have had. These little tubers are certainly a very delicious vegetable; but so far the yield at our Ohio home is not any thing near what is advertised. Although the plants were away above my head, and covered with very pretty little "sunflowers," I don't think I got a pint of tubers to the hill, and it was a lot of trouble to get them out of our clay soil, as they are seldom as large as your little finger. As they are surely a nutritious and delicious vegetable I really hope that, in some soils, they *may* go up to "2 or 3 hun-

dred bushels per acre." In our Nov. 15th issue I did not give the Burgess Seed Co. proper credit, because I was told by somebody they were out of business; but I since learn they had only moved their seedstore from Allegan to Galesburg, Mich., where their seed-farm is located. They now send out a very pretty little catalog describing helianti, the winter melon, guada bean, etc. The catalog informs me that the reason we did not appreciate the guada bean was that we attempted to cook the *mature fruit*, whereas it is only the small young ones that are "equal to asparagus," etc. As I now take it, you might as well undertake to eat a "ripe cucumber." The Burgess folks *guarantee* their seeds—no such talk as "after this our responsibility ceases," etc.

TEMPERANCE

"WHAT DO YOU THINK?"

My dear Brother A. I. Root:—In the last half of the second column on page 875, November 1, I find some questions asked for your friends to answer. As I consider myself one of your friends, allow me a word or two in your temperance department. You ask, "What do you think of the man who made money by selling the whisky that caused the poor crazy man to fight with, and *kill*, his poor innocent hard-working *blind* wife who was *tied up* to a drunken husband?" Allow me to ask a question in answer: Would any of the readers of GLEANINGS think the whisky-seller should work for the United States Government for just a bare living? Do not all Government employees get better pay than that? It is *well* that we do not forget that the *saloon-keeper* is a necessity in the economy of these United States if we are to have "half our government expenses" paid. See first column of GLEANINGS for September 15, 1913, page 663. I should prefer that the half of my government expenses be paid by a direct tax; but so far I have been unable to have *my* say in this matter.

Next you ask: "Can any church-member, in the face of the above, think for a moment of voting wet?" No, I cannot. But, dear reader, what is voting wet? I charge, without fear of successful contradiction, that nine-tenths of the voters of the United States did vote "wet" on November 3, 1914; otherwise all the congressmen who stood pledged that this liquor-taxed, licensed-saloon business for revenue should continue, if they were elected, could not have taken a seat at the head of our government. And how many of these were elected by the *sovereign* voters of the United States? All but one. One congressional district in California said their congressman should carry his part of this government "dry." And if all the other congressional-district voters could have done their "church-member duties" in the same way this country would have been as dry after the 4th of next March as in Russia today; and this people had the proof that the only way to kill this cursed business was to "knock it in the head." See GLEANINGS for July 1, 1914, page 526. It took an Old World monarch to teach us how this nearly one-sixth of the area of this world of ours could be made "dry" in one day—yes, absolutely dry. Shall we heed the lesson? In your familiar call, "May God help."

Borodino, N. Y.

G. M. DOOLITTLE.

PROHIBITION IN KANSAS; BY CONGRESSMAN JOHN CONNELLY

When I read the *American Issue* I am tempted to clip for GLEANINGS from almost every article. I wish our *Ohio* readers at least would subscribe and read it all.

To-day we issue a challenge, and feel free in so doing. We dare you to find a community in Kansas where the abolishing of the sale and manufacture of liquor has permanently increased the taxes raised in other ways; where it has increased the crime in the community or contention among its citizens; where it has increased want and misery among her people, or has made it more difficult for men to reap a recompense for their honest endeavor. I know little about the workings of prohibition elsewhere; but when those who are opposed to the principle desire to point out a place where prohibition has been a failure they must leave Kansas out of their calculations.

I am glad to speak to-day for the splendid commonwealth of prohibition Kansas. Half a million boys and girls tread her highways who never saw a place where liquor was legally sold, and a hundred thousand of them never saw a drunken man, nor do they know the taste of liquor. The older generations are not entirely free from the baneful effects of the liquor habit; but from the loins of that mighty people there is coming into maturity the new generation free from the tyranny of its hurtful reign. May it please God that, with the coming of another generation, we may not only appreciate the benign influence of statewide prohibition, but may we hope there will soon be no place where a licensed grogshop may find lodgment under the protecting folds of the national flag. For this we dare to hope, for this we dare to pray, for this we dare to vote.

"BY THEIR FRUITS YE SHALL KNOW THEM."

We take pleasure in submitting the following from the *Sunday School Times*:

A few weeks ago a Philadelphia man and his wife decided to give up drinking. When the regular case of beer was delivered to the house the woman reported that she asked the driver to remove all of the empty bottles that were in the cellar. "Now you

may take away that full case of beer, and not bring any more here."

"Would you mind telling me," said the liquor man, "whether Billy Sunday had any thing to do with this?"

"Yes, he did," answered the woman; "we've been to the meetings, and decided not to drink any more."

"You are the tenth customer," he said, as he prepared to depart; "you are the tenth customer that I have lost to-day on account of Billy Sunday."

And that was two weeks before the Booze sermon was delivered!

"GOD'S KINGDOM" COMING.

And the following also, from the same issue:

The claim that more liquor is being consumed to-day than ever before is one of the claims that trouble many temperance people. Billy Sunday brought this claim into the open and met it with a printed report that was given to him by a government official. The figures given were by the United States government. The whole tabernacle smiled with Billy as he told them confidentially that he had friends on the inside who kept him posted on the real facts. He chuckled with pleasure as he held the sheet in his hand; and as the laughter quieted down he hurled these figures at the audience. For the government year ending 1914 the amount of whisky that was consumed in the United States was 10,741,738 gallons less than was consumed in the year ending June, 1913!

OVER 189 MILLION PASSENGERS CARRIED, AND NOT ONE KILLED.

SAFETY FOLLOWS SOBRIETY.

In 1914 the Pennsylvania Railroad Company throughout its entire system carried 189,167,326 passengers, and not one of these passengers was killed. This is the company's star record. It will be remembered that the Pennsylvania company strictly enforced its rule against drinking on the part of its employees, does not sell liquor on its dining-cars, and has closed the bars in all of its stations.—*American Issue.*

"CAPT. RAND" AND HIS "LUCKY STONE."

Dear Mr. Root:—Please print in GLEANINGS your opinion of the so-called "lucky stone."

Surrey, Cal., Nov. 17. MRS. ANNA ROSE.

My good friend, the above has been referred to two or more times already. It is, of course, useless to pay out a dollar for a common pebble so as to *insure* the owner "good luck." A horseshoe nailed over the door will do the trick just as well, for we all have more or less good luck every day of our lives; but we never take note of it (nor thank God for it) until we have invested our dollar in an innocent pebble.

ONE CIGARETTE, AND WHAT IT DID.

We clip the following from the *Christian Herald*:

ONE CIGARETTE, \$500,000.

Starting, it is alleged, from a cigarette thrown into some rubbish, a fire destroyed railroad property at Camden, N. J., January 3, to the value of more

than \$500,000. The railroad station and ferry slips of the Atlantic City Railroad Company and some twenty-five vestibule cars, besides a nearby lumberyard, were destroyed; a dozen persons were seriously hurt, and over one hundred firemen were overcome by the smoke. It required the services of eighteen local fire companies aided by apparatus and fire-boats from Philadelphia to subdue the flames, which were fanned by a north wind. Thousands of spectators watched the spectacle.

One addicted to the cigarette habit, as a rule has too little sense to know any better than to throw the burning paper into any combustible matter.

WOULD WOMEN VOTE IF THEY COULD?

In answer to the above we clip the following from the *Woman's Journal and Suffrage News*:

At the presidential election in Arizona in November, 1912, when women could not vote, the total vote cast was 23,722. At the gubernatorial election in November, 1914, when women did vote, the total vote cast was 51,007.

In like manner in Kansas, in 1912, the presidential vote was 365,444. In 1914 the gubernatorial vote was 530,206.

Oregon, in 1912, cast 137,404 votes. In 1914 it cast 210,566 votes.

At the gubernatorial election of 1910 in California the last general election at which men alone voted, the vote was 385,713. In 1914, at the gubernatorial election, with women voting, it was 926,689.

In Washington, at the 1908 election, the vote for governor was 176,141. Women were enfranchised in 1911, and the vote in November, 1914, was 345,279.

These are the latest five States in which women have had an opportunity to vote at a general election. The difference between the vote before and after equal suffrage should put an end to all arguments that women do not use the vote.

"THE FATHERHOOD OF GOD AND THE BROTHERHOOD OF MAN."

My dear Mr. Root:—I am inclosing \$1.00 for the renewal of my subscription. I am not handling bees, but in a general way I am interested in the discussions and experiments on that line. The honeybee has been one of the potent agencies in our American civilization. The same may be said of our horticultural productions. Furnish the home with fruits and honey, and the home is far more complete and happy. Our heavenly Father has provided a supply for the legitimate wants of every living creature; and with a proper adjustment in our social relations every need of every human being can be supplied, so that there should be no necessity for war.

Our Father is rich in houses and lands,
Rubies and diamonds, silver and gold,
He has riches untold.

But the wastes from war and dissipation to the present time would build for every family on earth a palace of marble and decorate it with gold, so that Aladdin's dream might be realized.

I am interested in your apology; but for me the greater attraction is in the common-sense sermons which you are preaching to what is one of the largest congregations in the world. The world is learning that true religion does not consist in mere profession, ceremony, or ritualism, but a life and character which is in harmony with the spirit of Christ—a religion which recognizes the fatherhood of God and the brotherhood of man.

Urbana, Ill., Feb. 4.

I. R. REASONER.